

## **POOR LEGIBILITY**

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2166-00838

SOMS

88130259

FIELD PROGRAM

Two borings, both of which were converted to vapor monitoring wells, were drilled/installed to assess conditions surrounding Tank B-1-AA. This tank was not included in the original Work Plan, however, the drilling program was approved by Mr. Al Novak (RWQCB) the field.

BORING/VAPOR MONITORING WELL B-1-AA-B1/MV1

Monitoring Installations - Boring/Vapor Monitoring Well B-1-AA-B1/MV1 was drilled/installed to monitor the north end of the waste oil tank. The location of the boring/vapor monitoring well is indicated on the site map.

Sampling Intervals - Soil samples were taken from the Boring/Vapor Monitoring Well B-1-AA-B1/MV1 at depths of 6, 13, 18, 30 and 40 feet.

Field Observations - The brown color and medium grain size of the sand remained consistent throughout the borehole. There was some construction debris (chunks of asphalt, brick, etc.) in the upper 4 feet and the frequency of the gravel and cobble fraction remained sporadic throughout the boring.

Indications of possible contamination were based upon observations of odor, color, moisture content and soil consistency. There were no indications of contamination.

BORING/VAPOR MONITORING WELL B-1-AA-B2/MV2

Monitoring Installations - Boring/Vapor Monitoring Well B-1-AA-B2/MV2 was drilled/installed to monitor the south end of the waste oil tank as indicated on the site map. Upon completion, the boring was backfilled to a depth of 9 feet at which point a vapor monitoring well was installed.

Sampling Intervals - Soil samples were taken from the boring/vapor monitoring well at depths of 6, 13, 18, 30 and 40 feet, as approved in the Work Plan.

Field Observations - The light variegated brown color and the coarse grain size of the sand remained consistent throughout the first 5 feet of the boring/vapor monitoring well. At 5 feet the soil became a brown, fine to medium grain sand. The sand continued to become progressively finer with depth, although there was a thin coarse layer between 12 and 15 feet. The occurrence of gravel remained frequent throughout the borehole.

TANK B-1-AA (continued)

There were no indications of contamination.

### LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - Liquid samples of the contents of Tank B-1-AA were collected. Separate analyses of volatile organic compounds and oil and grease were conducted on the oil phase and the water phase of the samples. Soil samples were collected from Borings B-1-AA-B1 and B-1-AA-B2 and analyses of volatile organic compounds were conducted on composites of individual-depth samples from each of these borings. Petroleum hydrocarbons and oil and grease analyses were conducted on individual-depth samples from Boring B-1-AA-B1. Individual-depth samples collected from Boring B-1-AA-B2 were analyzed for oil and grease only.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AA. Two samples of the oil phase of the liquid sample collected from the tank were analyzed for volatile organics. Concentrations of 4340 and 65.7 ug/kg of tetrachloroethene were detected in the samples. The difference in the tetrachloroethene concentrations found in the two samples is possibly due to volatilization of the samples while separating the oil and water phases. The remaining volatile organic compounds were below the limits of detection in the oil phase samples. The water phase of the liquid sample from Tank B-1-AA was found to contain 6.6 ug/kg of 1,1,1-trichloroethane and 2.8 ug/kg trichloroethene. Both of the liquid samples of the tank contents were found to be composed of approximately 50 percent oil and 50 percent water soluble fluids.

Volatile organic compounds were not detected in either of the composite soil samples from Borings B-1-AA-B1 and B-1-AA-B2. Petroleum hydrocarbons and oil and grease levels in the soil samples from Boring B-1-AA-B1 were found to be below the limits of detection. Low to moderate concentrations of oil and grease (9.2, 22, and 8 mg/kg) were reported for the 13, 18, and 30 foot samples, respectively, collected from Boring B-1-AA-B2.

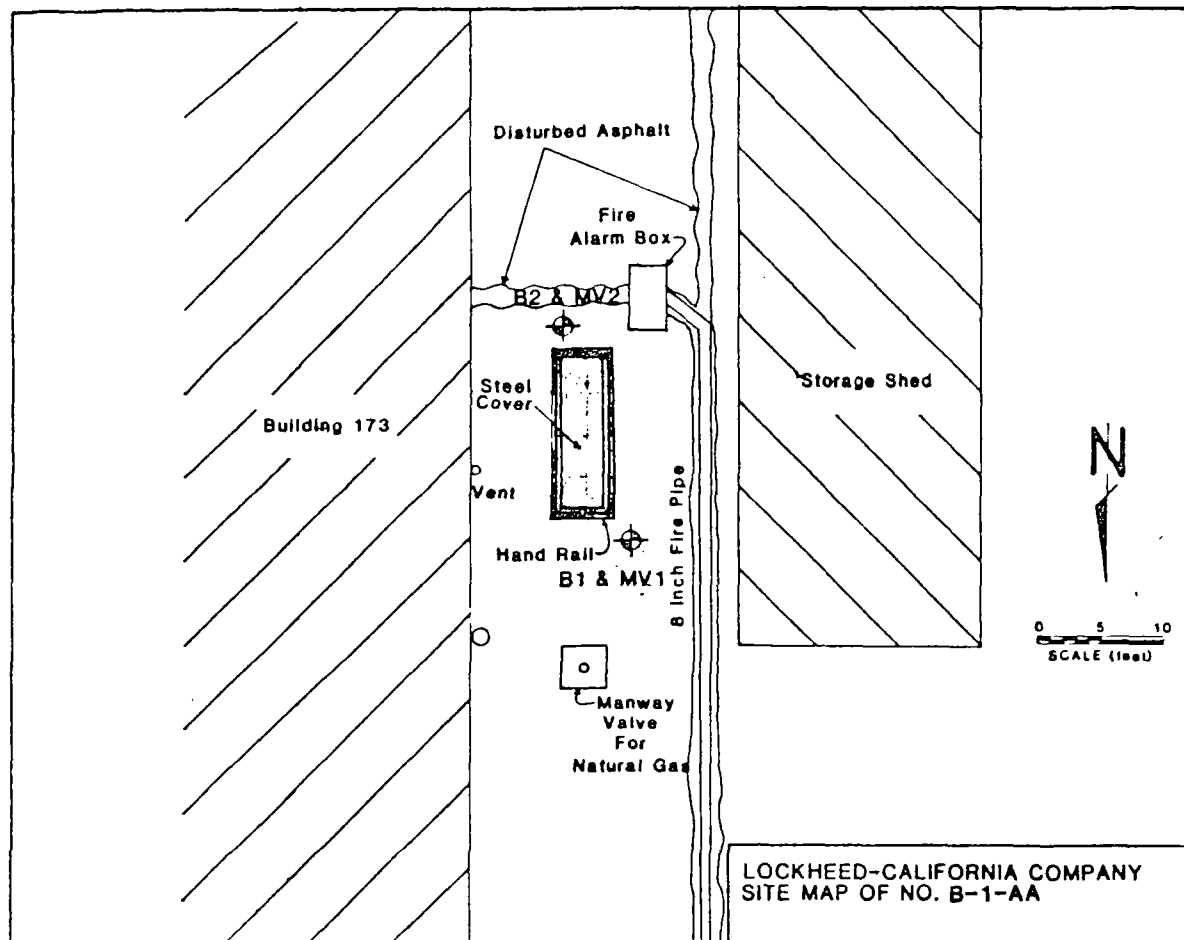
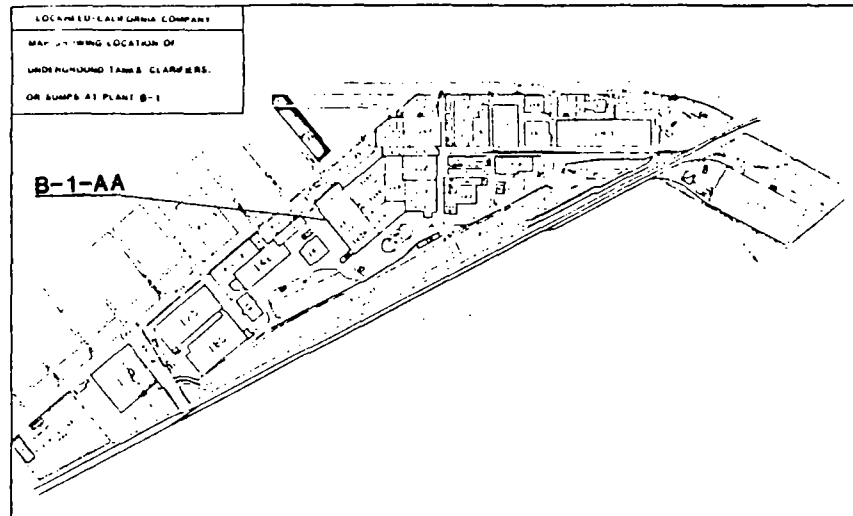
### CONCLUSIONS

Based on field observations (no odor) and laboratory analysis results, it is concluded that Tank B-1-AA is not leaking. The low to moderate concentrations of oil and grease reported for the samples collected from Boring B-1-AA-B2 are more likely the result of surface spills since the high levels of tetrachloroethene found in the liquid samples would have been reflected in the soil samples as well if the tank were leaking.

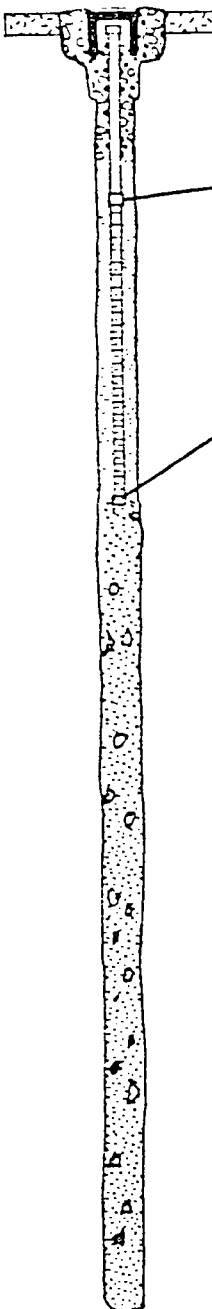


RECOMMENDATION

Proceed with quarterly monitoring of the wells.



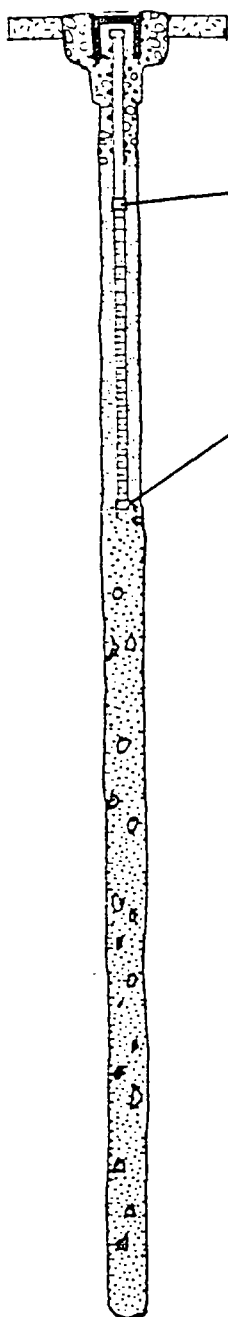
Tank No.	B-1-AA	
Plant No./Nearest Bldg.	B1/Bldg. 125W (W Side)	
Tank:	Location	1903 Empire Avenue
	Installation Date	1958
	Capacity, gal.	~1500
	Use/Process	Waste oil
	Contents (past, CAS No., date)	Waste oil
	(present, CAS No.)	Waste oil
	Construction Materials	Steel
	Geometry	Cylindrical
	Depth To Top	1.8 ft
	Depth To Invert	6.2 ft
	Diameter	4.4 ft
	Length (L)	12.8 ft
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Asphalt
	Appearance	Poor
	Surface Contamination	None
Drilling Program:	Rig Type/Requirements (3)	H.S. Auger
	Borings (No.)	2
	Sample Depths	B1/5, 13, 18, 30, 40 ft B2/6, 13, 18, 30, 40 ft
	Vapor Wells/Lysimeter (No.)	2
	Sample Depths	MV1/REF. TO B1 MV2/REF. TO B2
	Completion Interval	MV1/5-9.2 ft MV2/5-9 ft
Laboratory Program (4)	No. of Tank Content Samples	2
	Parameters	Hydrocarbons Vol. Org.
	No. of Tank Soil Samples	9 & 2 (Comp.)
	Parameters	Hydrocarbons

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -	Asphalt		- Asphalt
	- 2 -	Debris, asphalt, brick, etc		- Debris, asphalt, brick, etc
	- 4 -			- Sand, fine to coarse
	- 6 -		25	grain, brown, moist, w/ occasional cobbles & frequent gravel
	- 8 -			
	- 10 -			
	- 12 -		40	
	- 14 -			
	- 16 -			
	- 18 -		38	
	- 20 -			
	- 22 -			
	- 24 -			
	- 26 -			
	- 28 -			
	- 30 -		50+	- Sand, medium grain, brown, w/some gravel
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		50+	- Sand, fine to medium grain, brown

## COMPLETION &amp; BACKFILL

- Blank 2-in I.D.  
PVC pipe, 0-5 ft
- Screened 2-in I.D.  
PVC pipe, 5-9.2 ft
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand, 5-10 ft
- Native material, backfill  
10-40 ft

TANK NO. B-1-AABORING NO. B-1-AA-B1

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -			Asphalt
	- 2 -			Sand, coarse grain, light variegated brown, w/ cobbles & pea size gravel
	- 4 -			Color change
	- 6 -		10	Sand, fine to medium grain, brown, very moist & loose
	- 8 -			
	- 10 -			Grainsize change to very fine
	- 12 -		50+	Color change to lighter brown & more variegated sand more coarse
	- 14 -			Color change to dark brown
	- 16 -			
	- 18 -		50+	Sand, very fine grain light brown,
	- 20 -			
	- 22 -			
	- 24 -			
	- 26 -			
	- 28 -			
	- 30 -		50+	
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		50+	Occasional pebbles

## COMPLETION &amp; BACKFILL

- Blank 2-in I.D. PVC pipe, 0-5 ft
- Screened 2-in I.D. PVC pipe, 5-9 ft
- Concrete, 0-3.5 ft
- Bentonite, 3.5-4.5 ft
- Clean sand, 4.5-9 ft
- Native material, caved 9-40 ft

TANK NO. B-1-AABORING NO. B-1-AA-B2

TABLE B-1-AA: RESULTS OF CHEMICAL ANALYSES

0838

PARAMETER	BACK- GROUND SAMPLE	TTL CONC	B-1-AA OIL (SAMPLE 1) UNTREATED	B-1-AA WATER (SAMPLE 2) UNTREATED	B-1-AA OIL (SAMPLE 2) UNTREATED
Volatile Organics (ug/kg)		N.A.			
Benzene	<0.2		N.D.	N.D.	N.D.
Ethyl Benzene	<0.1		N.D.	N.D.	N.D.
Chloroform	<0.1		N.D.	N.D.	N.D.
Chloroethane	<0.2		N.D.	N.D.	N.D.
Chloroethane	<0.8		N.D.	N.D.	N.D.
1,1-Dichloroethane	<0.1		N.D.	N.D.	N.D.
1,2-Dichloroethane	<0.1		N.D.	N.D.	N.D.
1,2-Dichloropropane	<0.1		N.D.	N.D.	N.D.
1,1,1-Trichloroethane	<0.2		N.D.	6.6	N.D.
1,1,2-Trichloroethane	<0.1		N.D.	N.D.	N.D.
Bromodichloromethane	<0.1		N.D.	N.D.	N.D.
Dibromochloromethane	<0.1		N.D.	N.D.	N.D.
1,1-Dichloroethene	<0.1		N.D.	N.D.	N.D.
trans-1,2-Dichloroethene	<0.1		N.D.	N.D.	N.D.
Trichloroethene	<0.3	* 2,040	N.D.	2.8	N.D.
Tetrachloroethene	<0.4		4340	N.D.	65.7
Toluene	<0.4		N.D.	N.D.	N.D.
Methyl Ethyl Ketone	<0.5		N.D.	N.D.	N.D.
Petroleum Hydrocarbon (mg/kg)	<2.0	N.A.	N.T.	N.T.	N.T.
Oil & Grease (mg/kg)	N.T.	N.A.	50%OIL+50%WATER	50%OIL+50%WATER	50%OIL+50%WATER
CAM Metals (mg/kg)			N.T.	N.T.	N.T.
Antimony	<2.5	500			
Arsenic	13.4	500			
Barium	91.9	10,000			
Beryllium	<1.0	75			
Cadmium	<2.5	100			
Chromium (Total)	9.6	2,500			
Cobalt	6.5	8,000			
Copper	22.1	250			
Lead	<2.5	1,000			
Mercury	<0.1	20			
Molybdenum	6.3	3,500			
Nickel	8.4	2,000			
Selenium	<2.5	100			
Silver	<2.5	500			
Thallium	<2.5	700			
Vanadium	22.0	2,400			
Zinc	38.7	2,500			
Others			N.T.	N.T.	N.T.
pH (standard units)	8.24	N.A.			
Sodium (mg/kg)	403	N.A.			
Cyanide (mg/kg)	<0.2	N.A.			
Sulfate (mg/kg)	<6	N.A.			

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

\* mg/kg

TABLE B-1-AA (Continued): RESULTS OF CHEMICAL ANALYSES

0838

PARAMETER	BACK- GROUND SAMPLE	TTL	B-1-AA B1 6 ft.	B-1-AA B1 13 ft.	B-1-AA B1 18 ft.	B-1-AA B1 30 ft.	B-1-AA B1 40 ft.	B-1-AA B1 COMPOSITE
Volatile Organics (ug/kg)		N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.D.
Benzene	<0.2							
Ethyl Benzene	<0.1							
Chloroform	<0.1							
Chloromethane	<0.2							
Chloroethane	<0.8							
1,1-Dichloroethane	<0.1							
1,2-Dichloroethane	<0.1							
1,2-Dichloropropane	<0.1							
1,1,1-Trichloroethane	<0.2							
1,1,2-Trichloroethane	<0.1							
Bromodichloromethane	<0.1							
Dibromochloromethane	<0.1							
1,1-Dichloroethene	<0.1							
trans-1,2-Dichloroethene	<0.1							
Trichloroethene	<0.3	* 2,040						
Tetrachloroethene	<0.4							
Toluene	<0.4							
Methyl Ethyl Ketone	<0.5							
Petroleum Hydrocarbon (ug/kg)	<2.0	N.A.	<2	2	<2	<2	<2	N.T.
Oil & Grease (ug/kg)	N.T.	N.A.	<2	2	<2	<2	<2	N.T.
CAM Metals (ug/kg)			N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Antimony	<2.5	500						
Arsenic	13.4	500						
Barium	91.9	10,000						
Beryllium	<1.0	75						
Cadmium	<2.5	100						
Chromium (Total)	9.6	2,500						
Cobalt	6.5	8,000						
Copper	22.1	250						
Lead	<2.5	1,000						
Mercury	<0.1	20						
Molybdenum	6.3	3,500						
Nickel	8.4	2,000						
Selenium	<2.5	100						
Silver	<2.5	500						
Thallium	<2.5	700						
Vanadium	22.0	2,400						
Zinc	38.7	2,500						
Others			N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
pH (standard units)	8.24	N.A.						
Sodium (ug/kg)	403	N.A.						
Cyanide (ug/kg)	<0.2	N.A.						
Sulfate (ug/kg)	<6	N.A.						

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

\* ug/kg

TABLE B-1-AA (Continued): RESULTS OF CHEMICAL ANALYSES

0838

PARAMETER	BACK- GROUND SAMPLE	TTL	B-1-AA B2 13 ft.	B-1-AA B2 18 ft.	B-1-AA B2 30 ft.	B-1-AA B2 40 ft.	B-1-AA B2 COMPOSITE
Volatile Organics (ug/kg)		N.A.	N.T.	N.T.	N.T.	N.T.	N.D.
Benzene	<0.2						
Ethyl Benzene	<0.1						
Chloroform	<0.1						
Chloromethane	<0.2						
Chloroethane	<0.8						
1,1-Dichloroethane	<0.1						
1,2-Dichloroethane	<0.1						
1,2-Dichloropropane	<0.1						
1,1,1-Trichloroethane	<0.2						
1,1,2-Trichloroethane	<0.1						
Bromochloromethane	<0.1						
Dibromochloromethane	<0.1						
1,1-Dichloroethene	<0.1						
trans-1,2-Dichloroethene	<0.1						
Trichloroethene	<0.3	* 2,040					
Tetrachloroethene	<0.4						
Toluene	<0.4						
Methyl Ethyl Ketone	<0.5						
Petroleum Hydrocarbon (ug/kg)	<2.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.
Oil & Grease (ug/kg)	N.T.	N.A.	9.2	22	8	<2	N.T.
CAM Metals (ug/kg)			N.T.	N.T.	N.T.	N.T.	N.T.
Antimony	<2.5	500					
Arsenic	13.4	500					
Barium	91.9	10,000					
Beryllium	<1.0	75					
Cadmium	<2.5	100					
Chromium (Total)	9.6	2,500					
Cobalt	6.5	8,000					
Copper	22.1	250					
Lead	<2.5	1,000					
Mercury	<0.1	20					
Molybdenum	6.3	3,500					
Nickel	8.4	2,000					
Selenium	<2.5	100					
Silver	<2.5	500					
Thallium	<2.5	700					
Vanadium	22.0	2,400					
Zinc	38.7	2,500					
Others			N.T.	N.T.	N.T.	N.T.	N.T.
pH (standard units)	8.24	N.A.					
Sodium (ug/kg)	403	N.A.					
Cyanide (ug/kg)	<0.2	N.A.					
Sulfate (ug/kg)	<6	N.A.					

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

\* ug/kg



RESULTS OF  
UNDERGROUND TANK LEAK  
DETECTION PROGRAM  
FOR PLANT B-1

LOCKHEED CALIFORNIA COMPANY  
BURBANK, CALIFORNIA

SUBMITTED TO  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION  
APRIL 1980

FIELD PROGRAM

One boring, which was converted to a suction lysimeter, was drilled/installed to assess conditions surrounding Clarifier B-1-AC.

BORING B-1-AC-B1/SUCTION LYSIMETER B-1-AC-SL1

Monitoring Installations - Boring/Suction Lysimeter B-1-AC-B1/SL1 was drilled/installed slightly east of the approved location due to rig access problems. Both the actual and approved locations of the boring/suction lysimeter are indicated on the site map.

Sampling Intervals - Soil samples from the boring/suction lysimeter were to have been collected at a depth of 12 feet according to the Work Plan. However, in order to more accurately assess subsurface conditions, the samples were collected from depths of 10, 15 and 30 feet. Soil samples were to have been extricated using a 3 inch modified California ring sampler, however, extremely limited access necessitated the use of a smaller rig with a 4-inch solid-stem auger. It was, therefore, not possible to use a downhole sampler, which requires a 8 inch hollow stem auger. The soil samples were taken directly from the auger flights at the surface and are subject to rolatilization. Further, they may represent soil from just below the surface to the listed interval due to soil caving onto the auger flights.

Field Observations - The medium to coarse grain size of the sand remained consistent throughout the boring/suction lysimeter. The soil was brown in color throughout the first 5 feet. At 5 feet the color changed to a darker shade of brown.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. There were no indications of contamination other than the slight discoloration of soil.

LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample was collected from Clarifier B-1-AC and treated with nitric acid to maintain metals in soluble form for subsequent CAM metals analysis. A second liquid sample was collected and analyzed for volatile organics and pH. Individual soil samples were composited and analyzed for volatile organics, CAM metals, and pH. These analyses have been approved in the Work Plan.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AC. The treated liquid sample was found to contain 32.0 mg/kg total chromium, 56.0 mg/kg copper, 36.3 mg/kg lead, 5790 mg/kg silver, and 231 mg/kg zinc. The

## TANK B-1-AC (continued)

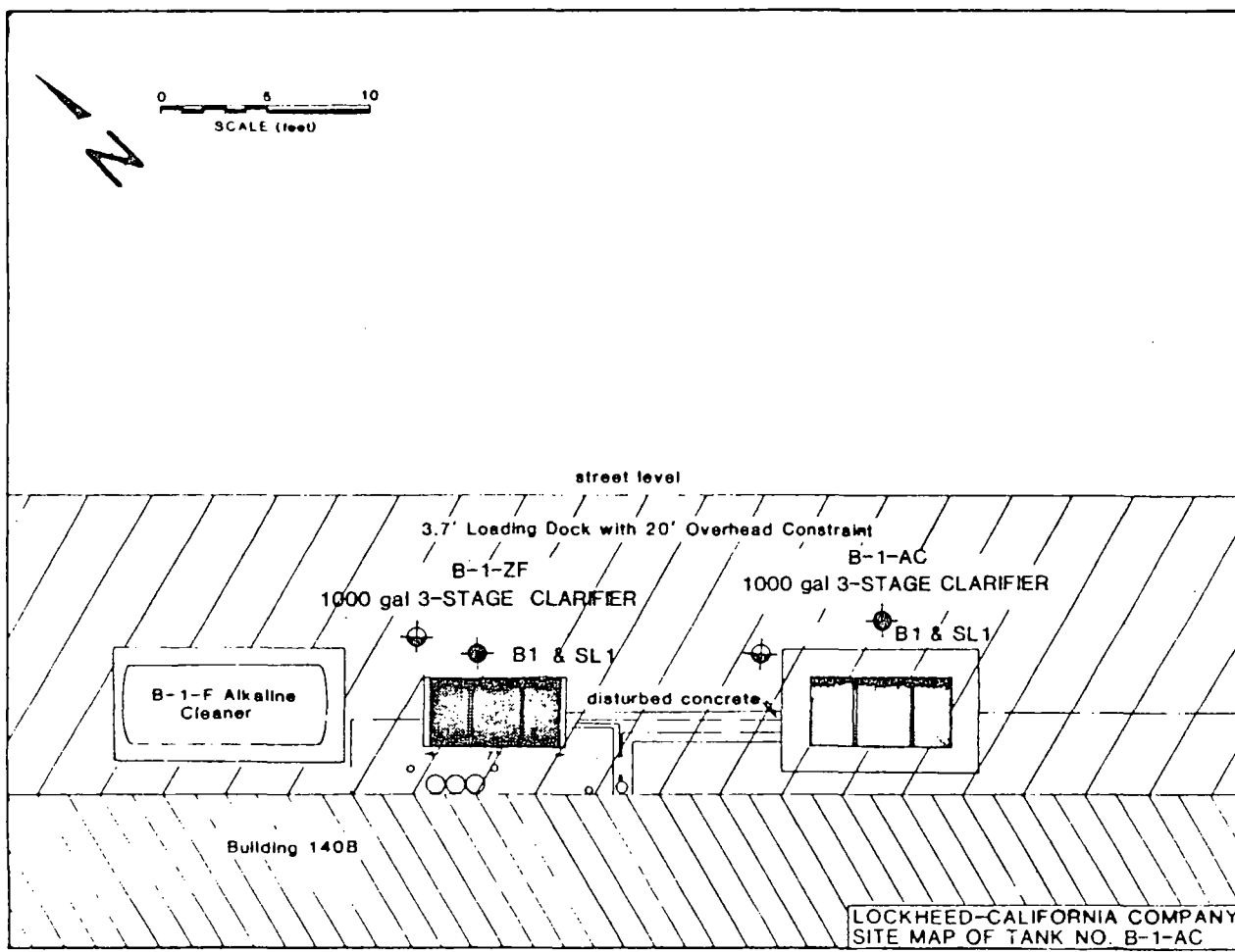
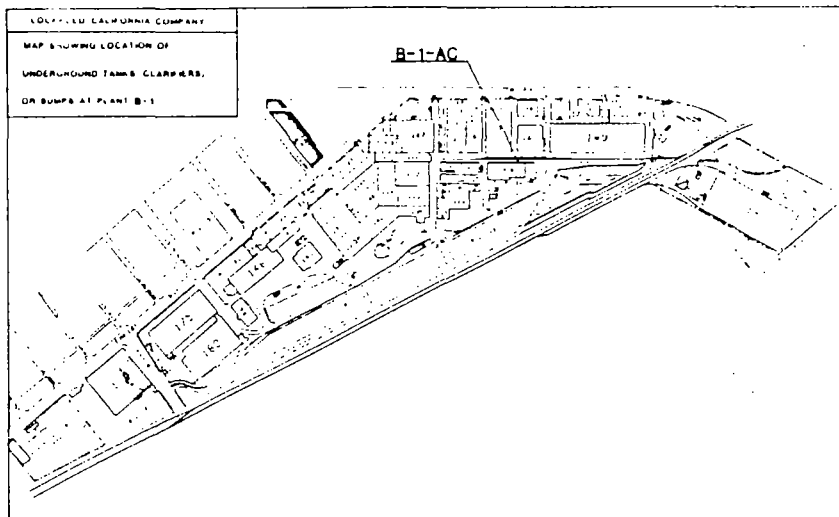
untreated liquid sample was reported to contain 7.2 ug/kg chloroform, 4.7 ug/kg 1,1,1-trichloroethane, 1.4 ug/kg trans-1,2-dichloroethene, 2.6 ug/kg trichloroethene, and 5.5 ug/kg tetrachloroethene. The concentrations of volatile organic compounds, CAM metals, and pH reported for the composite soil sample B-1-AC-SL1 were below the limits of detection or near the levels found in the background sample.

CONCLUSIONS

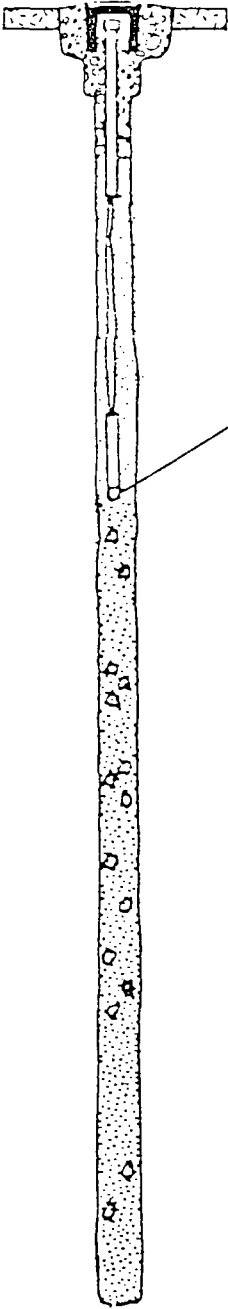
Based on field observations and laboratory analyses, it is concluded that Clarifier B-1-AC is not leaking.

RECOMMENDATION

Proceed with quarterly monitoring of the suction lysimeter.



Tank N		B-1-AC
Plan		B-1/51dg. 140B (W Side)
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	1000
	Use/Process	Clarifier (3-stage)
	Contents (past, CAS No., date)	UNK
	(present, CAS No.)	UNK
	Construction Materials	Concrete
	Geometry	Rectangular
	Depth To Top	UNK
	Depth To Invert	4 ft
	Diameter	3.3 ft
	Length (l)	7 ft
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Concrete
	Appearance	UNK
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	S.S. Auger
	Borings (No.)	1
	Sample Depths	B1/10, 15, 30 Jar
	Vapor Wells/Lysimeters (No.)	1
	Sample Depths	SL1/REF. TO B1
	Completion Interval	SL1/5ft
Laboratory Program (4)		
	No. of Tank Content Samples	3
	Parameters	CAM, pH Vol. Org.
	No. of Tank Soil Samples	1 (Comp.)
	Parameters	CAM, pH Vol. Org.

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -			- Concrete, loading dock
	- 2 -			- Artificial fill: Sand, medium to coarse grain, brown, w/some gravel
	- 4 -			
	- 6 -			- Native material: Sand, medium to coarse grain, medium brown
	- 8 -			
	- 10 -		Jar	
	- 12 -			
	- 14 -		Jar	
	- 16 -			- Gravel layer, 16 to 18 ft
	- 18 -			
	- 20 -			
	- 22 -			
	- 24 -			
	- 26 -			
	- 28 -			
	- 30 -		Jar	
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -			

## COMPLETION &amp; BACKFILL

- Suction Lysimeter at 9 ft
- Blank 2-in I.D. PVC pipe, 0-5 ft
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand, 5-6 ft
- Clean sand & native mix, 6-10 ft
- Native material, caved 10-30 ft

TANK NO. B-1-ACBORING NO. B-1-AC-B1

GREGG &amp; ASSOCIATES, INC.

TABLE B-1-AC: RESULTS OF CHEMICAL ANALYSES

0838

PARAMETER	BACK- GROUND SAMPLE	TTL C	B-1-AC LIQUID TREATED	B-1-AC LIQUID UNTREATED	B-1-AC LIQUID (DUP.) UNTREATED	B-1-AC SLI COMPOSITE
Volatile Organics (ug/kg)		N.A.	N.T.			N.D.
Benzene	<0.2			N.D.	N.D.	
Ethyl Benzene	<0.1			N.D.	N.D.	
Chloroform	<0.1			7.2	7.1	
Chloromethane	<0.2			N.D.	N.D.	
Chloroethane	<0.2			N.D.	N.D.	
1,1-Dichloroethane	<0.1			N.D.	N.D.	
1,2-Dichloroethane	<0.1			N.D.	N.D.	
1,2-Dichloropropane	<0.1			N.D.	N.D.	
1,1,1-Trichloroethane	<0.2			4.7	1.0	
1,1,2-Trichloroethane	<0.1			N.D.	N.D.	
Bromodichloromethane	<0.1			N.D.	N.D.	
Dibromochloromethane	<0.1			N.D.	N.D.	
1,1-Dichloroethene	<0.1			N.D.	N.D.	
trans-1,2-Dichloroethene	<0.1			1.4	0.4	
Trichloroethene	<0.3	* 2,040		2.6	1.8	
Tetrachloroethene	<0.4			5.5	2.9	
Toluene	<0.4			N.D.	N.D.	
Methyl Ethyl ketone	<0.5			N.D.	N.D.	
Petroleum Hydrocarbon (ug/kg)	<2.0	N.A.	N.T.	N.T.	N.T.	N.T.
Oil & Grease (ug/kg)	N.T.	N.A.	N.T.	N.T.	N.T.	N.T.
CDM Metals (ug/kg)				N.T.	N.T.	
Antimony	<2.5	500	0.31			<2.5
Arsenic	13.4	500	4.36			9.1
Barium	91.9	10,000	18.1			57.1
Beryllium	<1.0	75	<0.1			1.0
Cadmium	<2.5	100	2.54			0.9
Chromium (Total)	9.6	2,500	32.0			15.5
Cobalt	6.5	8,000	3.9			3.9
Copper	22.1	250	56			8.3
Lead	<2.5	1,000	36.3			4.92
Mercury	<0.1	20	0.002			<0.1
Molybdenum	6.3	3,500	3.3			9.1
Nickel	8.4	2,000	2.5			6.3
Selenium	<2.5	100	<0.25			<2.5
Silver	<2.5	500	5790			<2.5
Thallium	<2.5	700	<0.5			<2.5
Vanadium	22.0	2,400	1.2			15.9
Zinc	38.7	2,500	231			39.0
Others			N.T.		N.T.	
pH (standard units)	8.24	N.A.		8.35		8.91
Sodium (ug/kg)	N.T.	N.A.		N.T.		N.T.
Cyanide (ug/kg)	<0.2	N.A.		N.T.		N.T.
Sulfate (ug/kg)	N.T.	N.A.		N.T.		N.T.

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

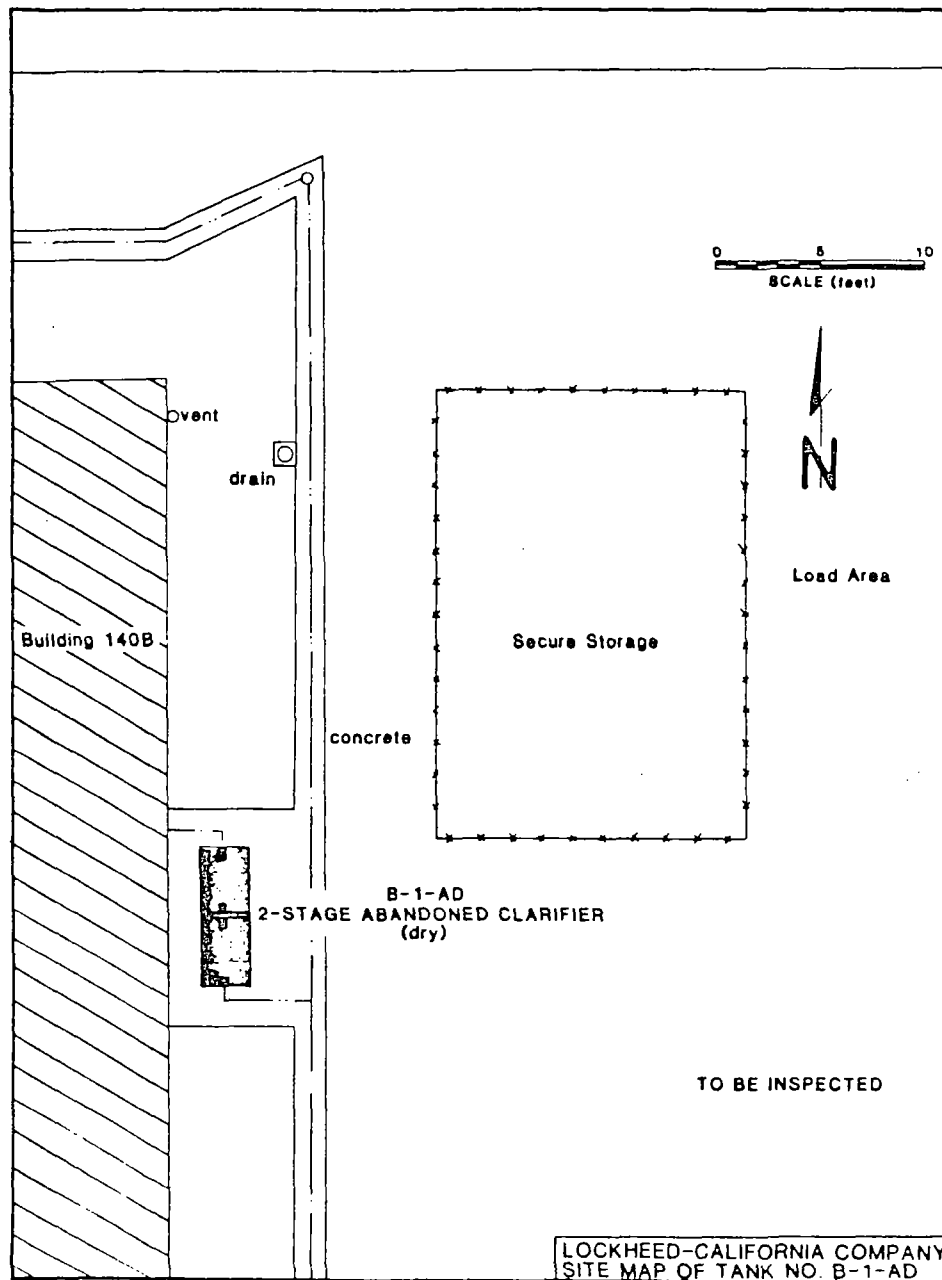
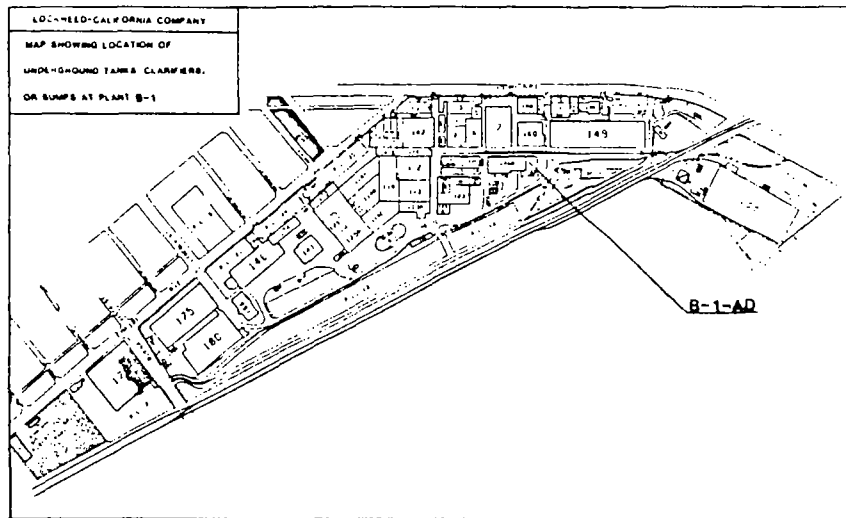
TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

\* ug/kg

## TANK B-1-AD

Tank B-1-AD is a dry, abandoned, two-stage clarifier and will be inspected, as approved in the Work Plan. The results of that inspection will be added to this report upon completion.





## PERTINENT CONSTRUCTION AND PROGRAM DATA

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Tank No.	B-1-AD
Plant No./Nearest Bldg.	B-1/Bldg. 1408 (NE Corner)
Tank:	Location 1705 Victory Place
	Installation Date UNK
	Capacity, gal. UNK
	Use/Process Clarifier (2-stage)
	Contents (past, CAS No., date) UNK
	(present, CAS No.) None
	Construction Materials Concrete
	Geometry Rectangular
	Depth To Top UNK
	Depth To Invert UNK
	Diameter 2.3 ft
	Length (l) 6.5 ft
	Containment None
	Corrosive Protection (2) UNK
	Status Inactive
Tank Piping:	Number UNK
	Type UNK
	Construction Mat. Steel
Sites	Paving Material/Thickness Concrete
	Appearance UNK
	Surface Contamination UNK
Drilling Program:	Rig Type/Requirements (3) Inspection
	Borings (No.) 0
	Sample Depths
	Vapor Wells/Lysimeters (No.) 0
	Sample Depths
	Completion Interval
Laboratory Program (4)	No. of Tank Content Samples 0
	Parameters
	No. of Tank Soil Samples 0
	Parameters

FIELD PROGRAM

Two borings, which were converted to vapor monitoring wells, were drilled/installed to assess conditions surrounding Tank B-1-AE.

**BORING/VAPOR MONITORING WELL B-1-AE-B1/MV1**

Monitoring Installations - Boring/Vapor Monitoring Well B-1-AE-B1/MV1 was drilled/installed to monitor the waste oil tank slightly east of the approved location due to re-assessment of tank location. Both the actual and approved locations of the boring/vapor monitoring well are indicated on the site map.

Sampling Intervals - Soil samples from the boring/vapor monitoring Well were to have been collected at depths of 7, 17, 22, 30 and 40 feet according to the Work Plan. However, in order to expedite the sampling process, samples were extracted from depths of 5, 17, 23, 30 and 40 feet. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampled intervals will significantly alter the chemical profile of the soil.

Field Observations - The brown color and medium to fine coarse grain size of the sand remained consistent throughout the first 5 feet of the boring. At 5 feet the sand became lighter in color and coarser. At 10 feet the sand became finer grained and was a darker brown. The occurrence of cobbles and gravel remained frequent throughout the excavation.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. There were no indications of contamination.

**BORING/VAPOR MONITORING WELL B-1-AE-B2/MV2**

Monitoring Installations - Boring/Vapor Monitoring Well B-1-AE-B2/MV2 was drilled/installed west of the approved location due to re-assessment of tank location. Both the actual and approved locations of the boring/vapor monitoring well are indicated on the site map.

Sampling Intervals - Soil samples from the boring/vapor monitoring well were to have been collected with a ring sampler at depths of 7, 17, 22, 30 and 40 feet according to the Work Plan. However, due to failure of the sampling cable at 30 feet, it was necessary to take the 30 foot and 40 foot samples directly from the auger cutting. The auger cut samples are subject to volatilization. However, as the tank contains waste oil, the possible volatilization of the lighter organic fractions from the auger cut samples should not significantly alter the results.

Field Observations - The brown color and medium grain size of the sand remained consistent throughout the boring/vapor monitoring well. The frequency of gravels increased at 25 feet and continued to 35 feet.

There were no indications of contamination.

#### LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample was collected from Tank B-1-AE and analyzed for oil and grease. Individual-depth soil samples were collected from Borings B-1-AE-B1 and B-1-AE-B2 and analyzed for oil and grease. Composites of individual-depth soil samples from each boring were analyzed for volatile organic compounds. These analyses have been approved in the work plan.

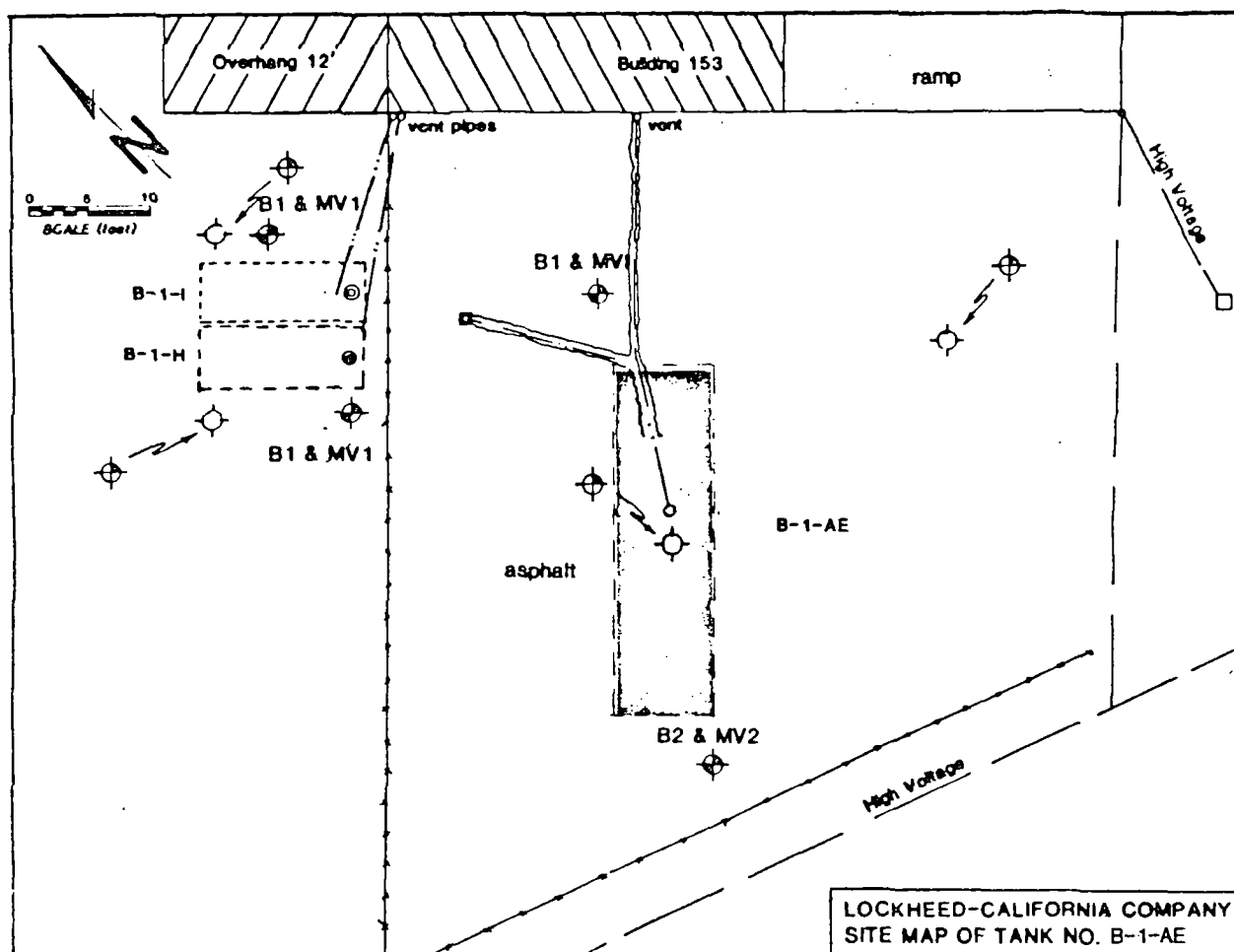
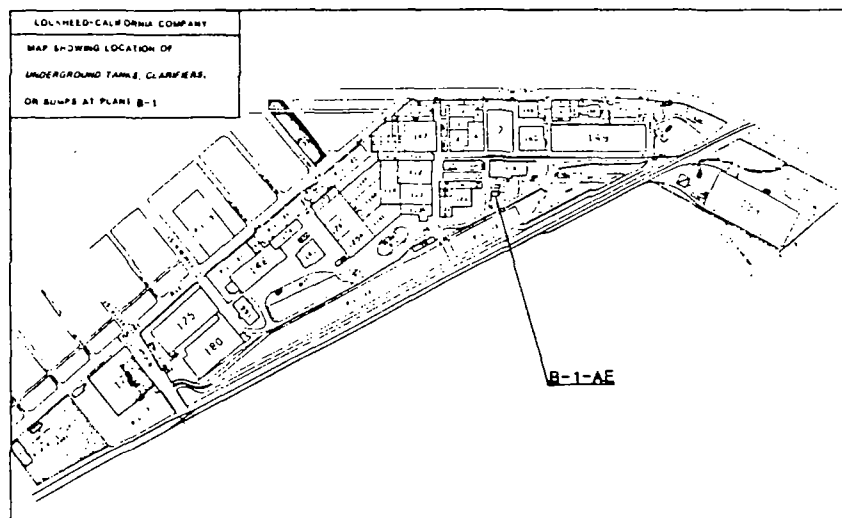
Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AE. The liquid sample was found to contain 2330 mg/kg of oil and grease. The concentrations of oil and grease reported for individual soil samples from B-1-AE-B1 are near the levels reported for the background samples (with the exception of the 17 foot sample where a slightly higher concentration was found). Low to moderate oil and grease concentrations were reported for individual soil samples from B-1-AE-B2 (ranging from 7.1 to 39.8 mg/kg). It should be noted that the 30-foot and the 40-foot samples from Boring B-1-AE-B2 are grab samples of auger cuttings. Typically, such samples can be contaminated and are not thought to be reliable. The levels of volatile organic compounds for each of the composite samples (B-1-AE-B1 and B-1-AE-B2) were reported to be below the limits of detection.

#### CONCLUSIONS

Based on laboratory analysis results, it is concluded that the soil around Clarifier B-1-AE (specifically at Boring B-1-AE-B2) is contaminated with a low to moderate level of oil and grease. It is possible that this contamination is due to clarifier leakage, however additional sources for the contamination include clarifier overflow and surface spills.

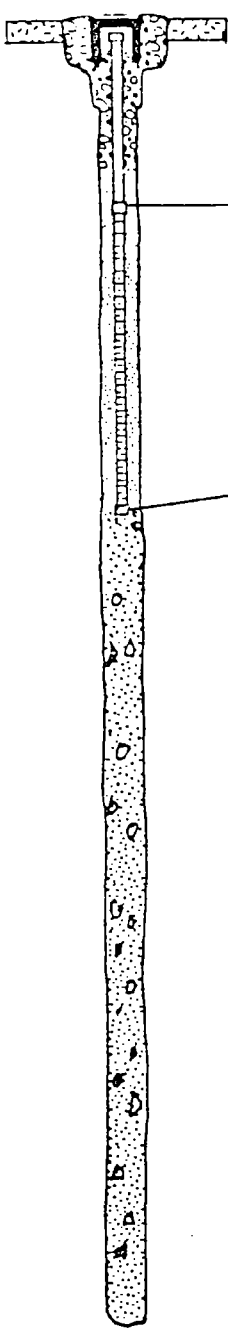
#### RECOMMENDATIONS

Proceed with quarterly monitoring of vapor monitoring wells.



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Tank No.		B-1-AE
Plant No./Nearest Bldg.		B-1/Bldg. 153 (SW Corner)
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	UNK
	Use/Process	UNK
	Contents (past,CAS No.,date)	UNK
	(present,CAS No.)	Water soluble waste oil
	Construction Materials	Steel
	Geometry	Cylindrical
	Depth To Top	2.9 ft
	Depth To Invert	12.3 ft
	Diameter	8.5 ft
	Length (1)	UNK
	Containment	None
	Corrosive Protection (2)	UNK
	Status	UNK
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Asphalt
	Appearance	Poor
	Surface Contamination	Oil on ground surface
Drilling Program:	Rig Type/Requirements (3)	M.S.Auger
	Borings (No.)	2
	Sample Depths	B1/S,17,23,30,40 ft B2/S,17,23;Grab 30,40 ft
	Vapor Wells/Lysimeters (No.)	2
	Sample Depths	MV1/REF. TO B1 MV2/REF. TO B2
	Completion Interval	MV1/6-14 ft MV2/6-14.1 ft
Laboratory Program (4)	No. of Tank Content Samples	1
	Parameters	hydrocarbons
	No. of Tank Soil Samples	6 & 2(Comp.)
	Parameters	hydrocarbons Vol.Org.

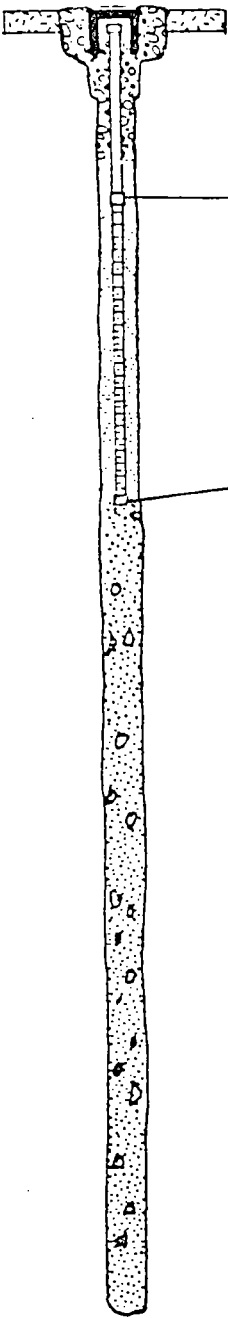
CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -	Asphalt		
	- 2 -	Sand, fine to medium grain, brown, very loose, slightly moist, frequent pebbles		
	- 4 -			
	- 6 -		10	At 5 ft becomes more coarse & lighter in color varieagted
	- 8 -			
	- 10 -			Color change, brown w/more fine grain sand,
	- 12 -			
	- 14 -			Sand, very fine grain, brown, loose
	- 16 -			
	- 18 -		50+	
	- 20 -			Sand, fine to medium grain, brown, occasional pebbles
	- 22 -			
	- 24 -		50+	
	- 26 -			
	- 28 -			
	- 30 -		50+	Cobbles to 6-in diameter
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		50+	

## COMPLETION &amp; BACKFILL

- Blank 2-in I.D. PVC pipe, 0-6 ft
- Screened 2-in I.D. PVC pipe, 6-14 ft
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand, 5-14 ft
- Native material, caved 14-40 ft

TANK NO. B-1-AEBORING NO. B-1-AE-B1

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CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -			Asphalt
	- 2 -			Sand, fine grain, brown, loose, moist, slightly cohesive, occasional pebbles & cobbles to 4-in diameter
	- 4 -		8	
	- 6 -			
	- 8 -			
	- 10 -			
	- 12 -			
	- 14 -			
	- 16 -		39	
	- 18 -			
	- 20 -			
	- 22 -		50+	
	- 24 -			Increase in gravel
	- 26 -			
	- 28 -			
	- 30 -		Grab	
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		Grab	

## COMPLETION &amp; BACKFILL

- Blank 2-in I.D. PVC pipe, 0-6 ft
- Screened 2-in I.D. PVC pipe, 6-14.1 ft
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand, 5-14 ft
- Native material, caved 14-40 ft

TANK NO. B-1-AEBORING NO. B-1-AE-B2



TABLE B-1-AE: RESULTS OF CHEMICAL ANALYSES

PARAMETER	BACK- GROUND SAMPLE	TTL C	B-1-AE LIQUID UNTREATED	B-1-AE B1 17 ft.	B-1-AE B1 23 ft.	B-1-AE B1 30 ft.	A-1-AE B1 40 ft.	B-1-AE B1 COMPOSITE
Volatile Organics (ug/kg)		N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.D.
Benzene	<0.2							
Ethyl Benzene	<0.1							
Chloroform	<0.1							
Chloroethane	<0.2							
Chloroethane	<0.8							
1,1-Dichloroethane	<0.1							
1,2-Dichloroethane	<0.1							
1,2-Dichloropropane	<0.1							
1,1,1-Trichloroethane	<0.2							
1,1,2-Trichloroethane	<0.1							
Bromodichloromethane	<0.1							
Dibromochloromethane	<0.1							
1,1-Dichloroethene	<0.1							
trans-1,2-Dichloroethene	<0.1							
Trichloroethene	<0.3	* 2,040						
Tetrachloroethene	<0.4							
Toluene	<0.4							
Methyl Ethyl Ketone	<0.5							
Petroleum Hydrocarbon (mg/kg)	<2.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Oil & Grease (mg/kg)	N.T.	N.A.	2330	4	2	<2	<2	N.T.
CAM Metals (mg/kg)			N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Antimony	<2.5	500						
Arsenic	13.4	500						
Barium	91.9	10,000						
Beryllium	<1.0	75						
Cadmium	<2.5	100						
Chromium (Total)	9.6	2,500						
Cobalt	6.5	8,000						
Copper	22.1	250						
Lead	<2.5	1,000						
Mercury	<0.1	20						
Molybdenum	6.3	3,500						
Nickel	8.4	2,000						
Selenium	<2.5	100						
Silver	<2.5	500						
Thallium	<2.5	700						
Vanadium	22.0	2,400						
Zinc	38.7	2,500						
Others			N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
pH (standard units)	8.24	N.A.						
Sodium (mg/kg)	N.T.	N.A.						
Cyanide (mg/kg)	<0.2	N.A.						
Sulfate (mg/kg)	N.T.	N.A.						

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

\* mg/kg

TABLE B-1-AE (CONTINUED): RESULTS OF CHEMICAL ANALYSES

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PARAMETER	BACK- GROUND SAMPLE	TTL C	B-1-AE B2 17 ft.	B-1-AE B2 23 ft.	B-1-AE B2 30 ft.	B-1-AE B2 40 ft.	B-1-AE B2 COMPOSITE
Volatile Organics (ug/kg)		N.A.	N.T.	N.T.	N.T.	N.T.	N.D.
Benzene	<0.2						
Ethyl Benzene	<0.1						
Chloroform	<0.1						
Chloromethane	<0.2						
Chloroethane	<0.8						
1,1-Dichloroethane	<0.1						
1,2-Dichloroethane	<0.1						
1,2-Dichloropropane	<0.1						
1,1,1-Trichloroethane	<0.2						
1,1,2-Trichloroethane	<0.1						
Bromodichloromethane	<0.1						
Dibromochloromethane	<0.1						
1,1-Dichloroethene	<0.1						
trans-1,2-Dichloroethene	<0.1						
Trichloroethene	<0.3	* 2,040					
Tetrachloroethene	<0.4						
Toluene	<0.4						
Methyl Ethyl Ketone	<0.5						
Petroleum Hydrocarbon (ug/kg)	<2.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.
Oil & Grease (ug/kg)	N.T.	N.A.	39.3	7.1	36.4	39.8	N.T.
CAM Metals (ug/kg)			N.T.	N.T.	N.T.	N.T.	N.T.
Antimony	<2.5	500					
Arsenic	13.4	500					
Barium	91.9	10,000					
Beryllium	<1.0	75					
Cadmium	<2.5	100					
Chromium (Total)	9.6	2,500					
Cobalt	6.5	8,000					
Copper	22.1	250					
Lead	<2.5	1,000					
Mercury	<0.1	20					
Molybdenum	6.3	3,500					
Nickel	8.4	2,000					
Selenium	<2.5	100					
Silver	<2.5	500					
Thallium	<2.5	700					
Vanadium	22.0	2,400					
Zinc	38.7	2,500					
Others			N.T.	N.T.	N.T.	N.T.	N.T.
pH (standard units)	8.24	N.A.					
Sodium (ug/kg)	N.T.	N.A.					
Cyanide (ug/kg)	<0.2	N.A.					
Sulfate (ug/kg)	N.T.	N.A.					

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

\* ug/kg

FIELD PROGRAM

One boring, which was converted to a suction lysimeter, was drilled/installed to assess conditions surrounding Clarifier B-1-AH.

BORING B-1-AH-B1/SUCTION LYSIMETER B-1-AH-SL1

Monitoring Installations - Boring/Suction Lysimeter B-1-AH-B1/SL1 was drilled/installed to monitor the clarifier as indicated in the approved Work Plan. The location of the boring/suction lysimeter is indicated on the site map.

Sampling Intervals - Soil samples from the boring/suction lysimeter were to have been collected at depths of 5, 12, 17, 25 and 40 feet according to the Work Plan. However, the samples were extracted from depths of 5, 10, 15, 30 and 40 feet in order to more uniformly space the samples. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampled intervals will significantly alter the chemical profile of the soil.

Field Observations - The brown color and coarse grain size of the sand remained consistent throughout the first 4 feet of the boring/suction lysimeter. At 4 feet, the sand became darker and slightly finer grained; the gravel and cobble fraction increased at 12 feet and continued to 14 feet.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. There were no indications of contamination.

LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample was collected from Clarifier B-1-AH and analyzed for volatile organic compounds and oil and grease. Individual soil samples collected from B-1-AH-B1 were composited and analyzed for volatile organic compounds, cyanide, and surfactants.

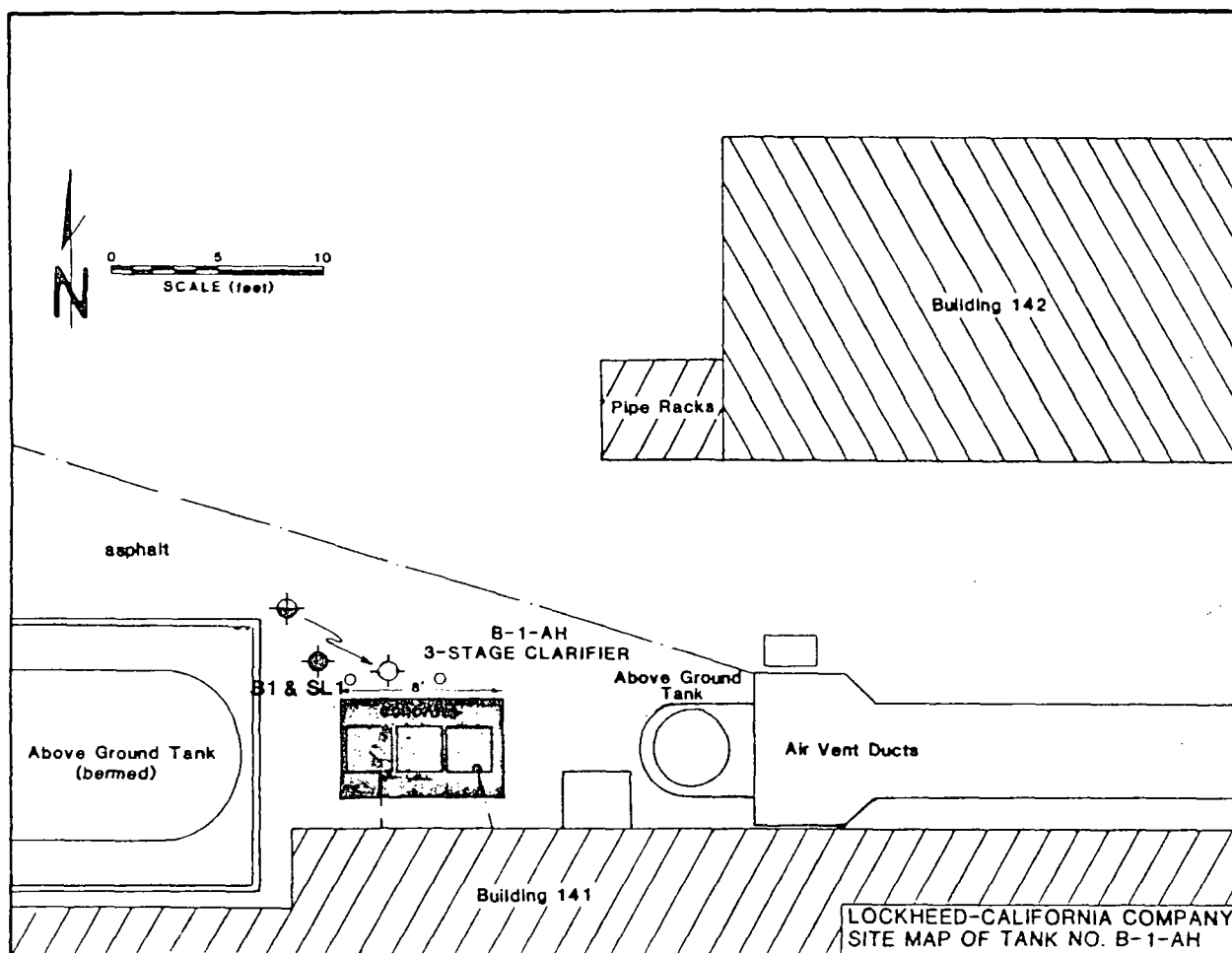
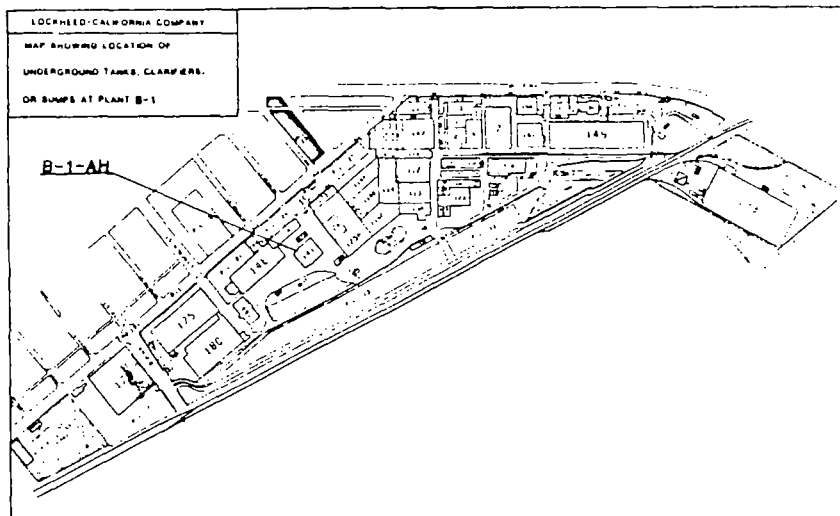
Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AH. The liquid sample was found to contain 711 ug/kg 1,1-dichloroethane, 16.6 ug/kg tetrachloroethene, and 2.4 ug/kg toluene. A low level of chloroform contamination (5.7 ug/kg) was found in the composite soil sample in addition to a high concentration of methylene chloride (73.3 ug/kg). The concentrations of the remaining volatile organic compounds, cyanide, and surfactants were below the limits of detection.

CONCLUSIONS

Based on field observation (no odor) and laboratory analyses, it is unlikely that Clarifier B-1-AH is leaking, although there is soil contamination in the area. The liquid in Clarifier B-1-AH contains 1,1-dichloroethane but no methylene chloride. The composite soil sample contained a high concentration of methylene chloride but contained no 1,1-dichloroethane. It is suspected that the methylene chloride and the chloroform in the soils are from surface spills.

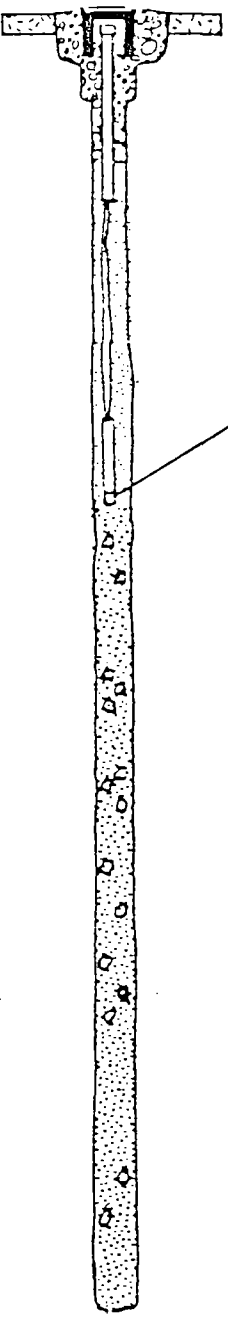
RECOMMENDATION

Proceed with quarterly monitoring of the suction lysimeter.



Tank No.	B-1-AH	
Plant No./Nearest Bldg.	B-1/Bldg. 141 (N Side)	
Tank:	Location	1705 Victory Place
	Installation Date	1978
	Capacity, gal.	UNK
	Use/Process	Wash sink drainage clarifier (3-stage)
	Contents (past, CAS No., date)	Poss. detergents
	(present, CAS No.)	Poss. detergents
	Construction Materials	Concrete
	Geometry	Rectangular
	Depth To Top	UNK
	Depth To Invert	UNK
	Diameter	2.2 ft
	Length (1)	8 ft
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Asphalt
	Appearance	UNK
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	H.S. Auger
	Borings (No.)	1
	Sample Depths	B1/S, 10, 15, 30, 40 ft
	Vapor Wells/Lysimeters (No.)	1
	Sample Depths	SL1/REF. TO B1
	Completion Interval	SL1/9 ft
Laboratory Program (4)	No. of Tank Content Samples	2
	Parameters	Hydrocarbons Vol. Org.
	No. of Tank Soil Samples	1 (Comp.)
	Parameters	Cn, SO4 Vol. Org.

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CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -	Asphalt		
	- 2 -	Sand, coarse grain to gravel varieagated brown		
	- 4 -		28	
	- 6 -			
	- 8 -			
	- 10 -		50 +	Color change, Sand, medium to coarse grain, darker brown, abundant small cobbles from 11-13.5 ft
	- 12 -			
	- 14 -		50 +	
	- 16 -			
	- 18 -			
	- 20 -			
	- 22 -			
	- 24 -			
	- 26 -			
	- 28 -			
	- 30 -		50 +	
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		50 +	

## COMPLETION &amp; BACKFILL

- Suction Lysimeter at 9 ft
- Blank 2-in I.D. PVC pipe, 0-5 ft
- Concrete, 0-5 ft
- Bentonite, 5-6 ft
- Clean sand & silica sand mix, 5-10 ft
- Native material, caved 10-40 ft

TANK NO. B-1-AHBORING NO. B-1-AH-B1

GREGG &amp; ASSOCIATES, INC.

TABLE B-1-AH: RESULTS OF CHEMICAL ANALYSES

PARAMETER	BACK- GROUND SAMPLE	TTL C	B-1-AH LIQUID UNTREATED	B-1-AH B1 COMPOSITE
Volatile Organics (ug/kg)		N.A.		
Benzene	<0.2		N.D.	N.D.
Ethyl Benzene	<0.1		N.D.	N.D.
Chloroform	<0.1		N.D.	5.7
Chloromethane	<0.2		N.D.	N.D.
Chloroethane	<0.8		N.D.	N.D.
1,1-Dichloroethane	<0.1		711	N.D.
1,2-Dichloroethane	<0.1		N.D.	N.D.
1,2-Dichloropropane	<0.1		N.D.	N.D.
1,1,1-Trichloroethane	<0.2		N.D.	N.D.
1,1,2-Trichloroethane	<0.1		N.D.	N.D.
Bromodichloromethane	<0.1		N.D.	N.D.
Dibromochloromethane	<0.1		N.D.	N.D.
1,1-Dichloroethene	<0.1		N.D.	N.D.
trans-1,2-Dichloroethene	<0.1		N.D.	N.D.
Trichloroethene	<0.3	* 2,040	N.D.	N.D.
Tetrachloroethene	<0.4		16.6	N.D.
Toluene	<0.4		2.4	N.D.
Methylene Chloride	<0.5		N.D.	73.3
Petroleum Hydrocarbon (ug/kg)	<2.0	N.A.	N.T.	N.T.
Oil & Grease (ug/kg)	N.T.	N.A.	1.0	N.T.
CAM Metals (ug/kg)			N.T.	N.T.
Antimony	<2.5	500		
Arsenic	13.4	500		
Barium	91.9	10,000		
Beryllium	<1.0	75		
Cadmium	<2.5	100		
Chromium (Total)	9.6	2,500		
Cobalt	6.5	8,000		
Copper	22.1	250		
Lead	<2.5	1,000		
Mercury	<0.1	20		
Molybdenum	6.3	3,500		
Nickel	8.4	2,000		
Selenium	<2.5	100		
Silver	<2.5	500		
Thallium	<2.5	700		
Vanadium	22.0	2,400		
Zinc	38.7	2,500		
Others			N.T.	
pH (standard units)	8.24	N.A.		N.T.
Sodium (ug/kg)	N.T.	N.A.		N.T.
Cyanide (ug/kg)	<0.2	N.A.		<0.2
Surfactants (ug/kg)	N.T.	N.A.		<0.5

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

\* ug/kg



FIELD PROGRAM

Two borings, one of which was converted to a suction lysimeter, were drilled/installed to assess conditions surrounding Clarifier B-1-AI.

**BORING B-1-AI-B1/SUCTION LYSIMETER B-1-AI-SL1**

Monitoring Installations - Boring/Suction Lysimeter B-1-AI-B1/SL1 was drilled/installed to monitor the clarifier as indicated in the approved Work Plan. Both the actual and approved locations of the boring/suction lysimeter are indicated on the site map.

Sampling Intervals - Soil samples from the boring/suction lysimeter were to have been collected at depths of 5, 15, 20, 30 and 40 feet according to the Work Plan. However, in order to achieve more uniform spacing, the samples were collected from depths of 5, 10, 22, 30 and 40 feet.

Field Observations - The variegated color and medium to coarse grain size of the sand remained consistent throughout the first 10 feet of the boring/suction lysimeter. After 10 feet, the sand became increasingly finer. At 22 feet, the sand became light brown and very coarse grained. The frequency of cobbles increased at 20 feet and continued to 23 feet.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. There were no indications of contamination.

**BORING B-1-AI-B1/SUCTION LYSIMETER B-1-AI-SL2**

Monitoring Installations - Boring/Suction Lysimeter B-1-AI-B2/SL2 was installed slightly north of the approved location due to rig access problems. Both the actual and approved location of the suction lysimeter is indicated on the site map.

Sampling Intervals - Soil samples from the excavation for the suction lysimeter were to have been collected at a depth of 15 feet according to the Work Plan. However, in order to sample closer to the bottom of the clarifier, the sampled depth was changed to 10 feet. A 5-foot sample was also taken so that the clay, which is not indigenous to the area could be monitored.

Field Observations - The brown color and medium to coarse grain size of the sand remained consistent throughout the first 2 feet of the excavation for the suction lysimeter. At 2 feet, the sand disappeared and the lithology was instead dominated by brown sandy clay. The presence of a large amount of construction debris indicated the clay was not naturally deposited, but was, rather, brought in as fill. The clay disappeared at 6 feet and

## TANK NUMBER B-1-AI supplement

ADDITIONAL INVESTIGATIONS

Clarifier B-1-AI, a three stage clarifier, receives waste water from a water filter on a paint spray booth. The clarifier receives inflow from a 6 inch line which connects to the west wall of the first stage. The clarifier discharges water through a 6-inch pipe, located in the east wall of the third stage, directly to the sewer. In order to determine the source of the contamination found in the soil adjacent to Clarifier B-1-AI during the initial drilling, a visual inspection was conducted. This inspection was done with approval by Mr. Al Novak of the Regional Water Quality Control Board (RWQCB).

The clarifier was inspected May 22, 1985. The level of fluid in the clarifier was 28 inches below the point of overflow. The liquid was pumped out and transported to a licensed hazardous waste facility. Approximately 18 inches of a paint-like sludge were removed from the floor of each stage with shovels. The clarifier was then steam cleaned and the rinse water pumped out. The clarifier was then entered and all surfaces closely inspected.

The walls, from 20 inches below the top and extending across the floor were coated with a chemically resistant fiberglass resin. There were no structural deficiencies found within the clarifier, which was constructed of monolithically formed reinforced concrete. There were several areas of rough or hummocky concrete, apparently the result of inadequate tamping of the concrete into the form. These rough areas are not considered likely conduits. There was, however, significant deterioration around both the inflow and outflow pipes. This deterioration is most likely the result of differential thermal expansion rates between the iron pipe and the concrete sump walls. This happens when the concrete poured around the pipes shrinks and cools during the curing process, which makes a very tight fit. When warm liquid is introduced into the pipe, the iron tends to expand slightly faster than the surrounding concrete, which subsequently cracks. Moisture enters these minute fractures and eventually degrades the concrete further. The subsequent deterioration forms a likely liquid conduit to the soil. This sort of deterioration is present at both the point of inflow and the point of outflow. This may be the source of the contamination

brown medium to coarse sand became the dominant lithologic unit. The frequency of cobbles increased at 1 foot and continued to 10 feet.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. There were no indications of contamination.

#### LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample of the contents of Clarifier B-1-AI was collected and treated with nitric acid to maintain metals in a soluble form for subsequent CAM metals analysis. A second liquid sample was collected and analyzed for volatile organics, pH, and cyanide. Soil samples from the boring for Suction Lysimeter B-1-AI-SL1 were collected and analyzed for volatile organics, CAM metals, and pH. These analyses have been approved in the work plan.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AI. The treated liquid sample was found to contain concentrations of CAM metals that are all below the limits of detection or near the levels reported for the background soil samples. The untreated liquid sample was found to contain 281 ug/kg tetrachloroethene. The concentrations of volatile organic compounds and cyanide, and the pH level reported for the B-1-AI-B1 composite soil sample were found to be below the limits of detection or near the levels reported for the background sample. A high concentration of acetone (196 ug/kg) was found in the soil sample obtained from the boring for Suction Lysimeter B-1-AI-SL1. The concentration of all other volatile organic compounds, CAM metals, and pH are below the limits of detection.

#### CONCLUSIONS

Based on field observations (no odor) and laboratory analysis results, it is concluded that it is unlikely that Clarifier B-1-AI is leaking. The soil at suction lysimeter B-1-AI-SL1 near Clarifier B-1-AI, however, is contaminated with acetone. So the level of acetone in the B-1-AI-B1 composite soil sample is below the limit of detection, and a high concentration of tetrachloroethene was detected in the clarifier contents sample was not found in the soil samples, it is likely that the acetone found at B-1-AI-SL1 is the result of a surface spill and not clarifier leakage.

#### RECOMMENDATION

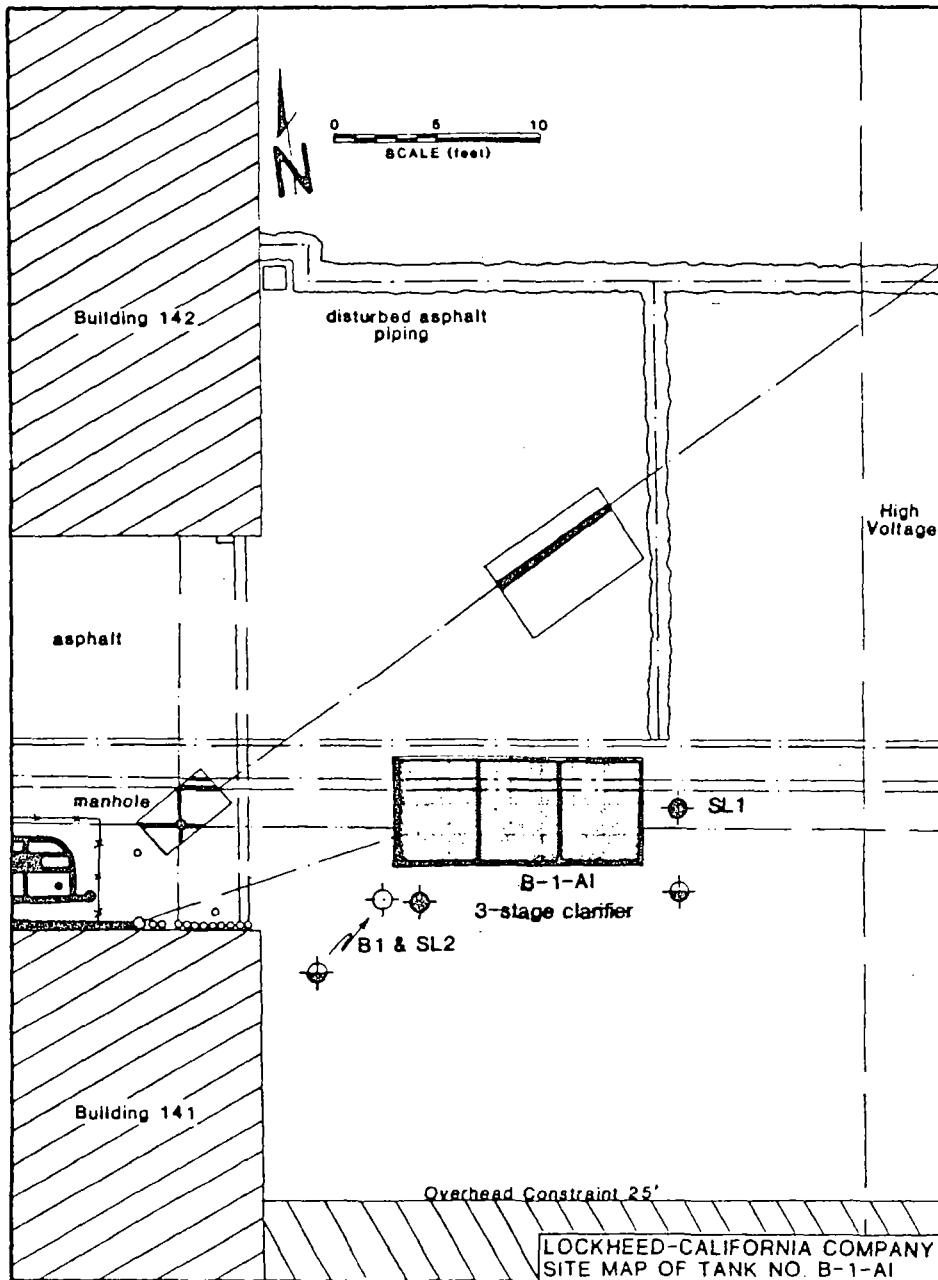
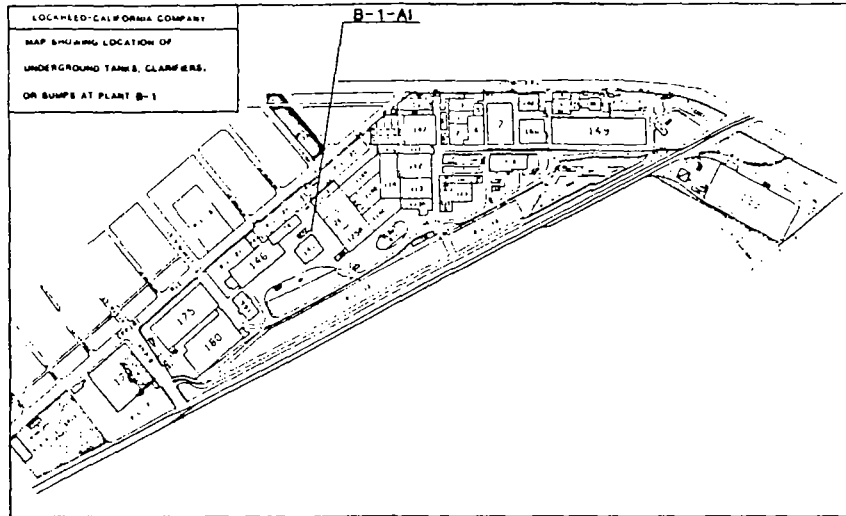
Proceed with quarterly monitoring of lysimeters.

## TANK NUMBER B-1-AI supplement continued

found in the adjacent soil. There is also evidence that periodic surface spillage of paints and associated liquids have taken place near the clarifier. This area is also used for drum storage. This may possibly be a source of some or all of the soil contamination.

FURTHER RECOMMENDATIONS

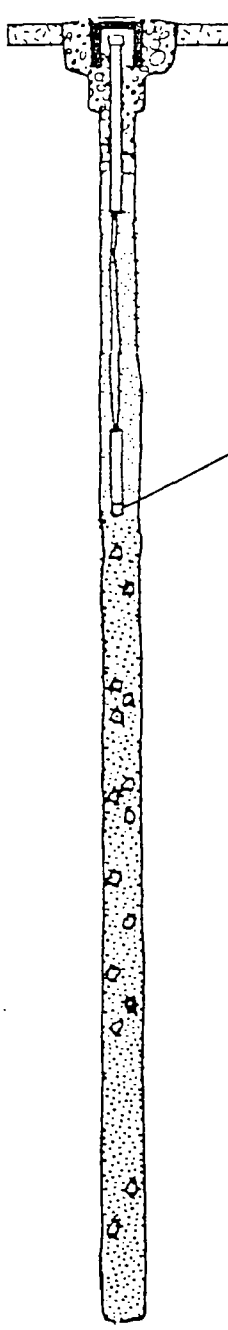
It is recommended that Clarifier B-1-AI's inflow and outflow pipes be renovated, and a coating similar to that which coats the rest of the clarifier be extended to the intersection of the pipe and concrete. Further, measures should be made to ensure no additional surface spillage, either from the drums or the handling of paints, adds to the contamination of the soil. This may include re-sealing the pavement with a non-porous coating in the area.



## PERTINENT CONSTRUCTION AND PROGRAM DATA

Tank No.		B-1-A1
Plant No./Nearest Bldg.		B-1/Bldg. 141 (NE Corner)
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	UNK
	Use/Process	Clarifier (3-stage)
	Contents (past, CAS No., date)	UNK
	(present, CAS No.)	UNK
	Construction Materials	Concrete
	Geometry	Rectangular
	Depth to Top	UNK
	Depth to Invert	UNK
Tank Piping:	Diameter	5 ft
	Length (1)	12.4 ft
	Containment	None
Site:	Corrosive Protection (2)	UNK
	Status	In service
	Number	UNK
Drilling Program:	Type	UNK
	Construction Mat.	Steel
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Asphalt
	Appearance	Disturbed asphalt
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	M.S. Auger
	Borings (No.)	1
	Sample Depths	B1/5, 10, 22, 30, 40
	Vapor Wells/Lysimeters (No.)	2
	Sample Depths	SL1/5, 10 ft SL2/REF. 10 B1
	Completion Interval	SL1/10 ft SL2/9 ft
Laboratory Program (4)		
Laboratory Program:	No. of Tank Content Samples	3
	Parameters	CAM, pH Vol. Org.
Laboratory Program:	No. of Tank Soil Samples	1 & 1 (Comp.)
	Parameters	CAM, En, pH Vol. Org.

0838

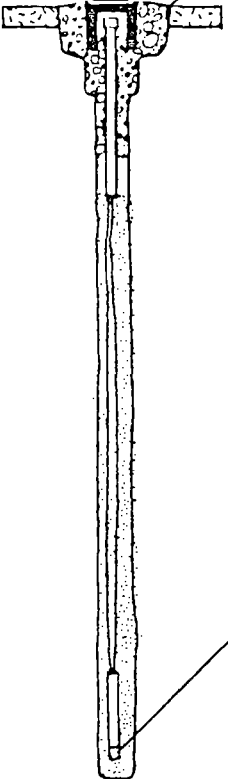
CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -	Asphalt		
	- 2 -	Sand, medium to coarse grain, variegated brown, w/gravel		
	- 4 -			
	- 6 -		23	
	- 8 -			
	- 10 -		50+	Sand, finer grain w/depth some cobbles to 5-in diameter
	- 12 -			
	- 14 -			
	- 16 -			
	- 18 -			
	- 20 -			
	- 22 -		50+	Sand coarse grain, variegated, moist, w/abundant cobbles & pebbles
	- 24 -			
	- 26 -			
	- 28 -			
	- 30 -		50+	
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		50+	

## COMPLETION &amp; BACKFILL

- Suction Lysimeter at 10 ft
- Blank 2-in I.D. PVC pipe, 0-5 ft
- Concrete, 0-3 ft
- Bentonite, 3-4 ft
- Clean sand & native mix 4-10 ft
- Native material, caved 10-40 ft

TANK NO. B-1-AIBORING NO. B-1-AI-B1

GREGG &amp; ASSOCIATES, INC.

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -	Asphalt	6	0838 Asphalt
	- 1 -	Sand, medium to coarse grain, brown, abundant gravel & cobbles		Sand, medium to coarse grain, brown, abundant gravel & cobbles
	- 2 -	Clay, sandy, brown, w/ abundant debris, animal bones, pipe fragments, steel elbow, unattached, abundant cobbles		Clay, sandy, brown, w/ abundant debris, animal bones, pipe fragments, steel elbow, unattached, abundant cobbles
	- 3 -			
	- 4 -			
	- 5 -			
	- 6 -		50+	Sand, medium to coarse grain, brown, moist, w/ some cobbles
	- 7 -			
	- 8 -			
	- 9 -			
	- 10 -			
	- 11 -			
	- 12 -			
	- 13 -			
	- 14 -			
	- 15 -			
	- 16 -			
	- 17 -			
	- 18 -			
	- 19 -			
	- 20 -			

#### COMPLETION & BACKFILL

- Suction Lysimeter at 10 ft
- Blank 2-in I.D. PVC pipe, 0-5 ft
- Concrete, 0-3 ft
- Bentonite, 3-4 ft
- Clean sand, 4-6 ft
- Silica sand, 6-10 ft

TANK NO. B-1-AI

SUCTION LYSIMETER NO. B-1-AI-SL1



TABLE B-1-A1: RESULTS OF CHEMICAL ANALYSES

PARAMETER	BACK- GROUND SAMPLE	TITLE	B-1-A1 LIQUID TREATED	B-1-A1 LIQUID UNTREATED	B-1-A1 B1/SL1 COMPOSITE	B-1-A1 SL2
Volatile Organics (ug/kg)		N.A.				
Benzene	<0.2		N.T.	N.D.	N.D.	N.D.
Ethyl benzene	<0.1		N.T.	N.D.	N.D.	N.D.
Chloroform	<0.1		N.T.	N.D.	N.D.	N.D.
Chloroethane	<0.2		N.T.	N.D.	N.D.	N.D.
Chloroethane	<0.8		N.T.	N.D.	N.D.	N.D.
1,1-Dichloroethane	<0.1		N.T.	N.D.	N.D.	N.D.
1,2-Dichloroethane	<0.1		N.T.	N.D.	N.D.	N.D.
1,3-Dichloropropane	<0.1		N.T.	N.D.	N.D.	N.D.
1,1,1-Trichloroethane	<0.2		N.T.	N.D.	N.D.	N.D.
1,1,2-Trichloroethane	<0.1		N.T.	N.D.	N.D.	N.D.
Bromodichloromethane	<0.1		N.T.	N.D.	N.D.	N.D.
Dibromochloromethane	<0.1		N.T.	N.D.	N.D.	N.D.
1,1-Dichloroethene	<0.1		N.T.	N.D.	N.D.	N.D.
trans-1,2-Dichloroethene	<0.1		N.T.	N.D.	N.D.	N.D.
Trichloroethene	<0.3	* 2,040	N.T.	N.D.	N.D.	N.D.
Tetrachloroethene	<0.4		N.T.	281	N.D.	N.D.
Toluene	<0.4		N.T.	N.D.	N.D.	N.D.
Acetone	<0.5		N.T.	N.D.	N.D.	198
Petroleum Hydrocarbon (ug/kg)	<2.0	N.A.	N.T.	N.T.	N.T.	N.T.
Oil & Grease (ug/kg)	N.T.	N.A.	N.T.	N.T.	N.T.	N.T.
CHM Metals (ug/kg)						
Antimony	<2.5	300	0.59	N.T.	N.T.	<2.5
Arsenic	<3.4	300	<1.25	N.T.	N.T.	3.9
Barium	<91.7	10,000	<0.125	N.T.	N.T.	48.1
Beryllium	<1.0	75	<0.25	N.T.	N.T.	1.1
Cadmium	<2.5	100	<0.13	N.T.	N.T.	<0.5
Chromium (Total)	<9.6	2,500	0.5	N.T.	N.T.	4.4
Cobalt	<6.5	3,000	<0.25	N.T.	N.T.	4.0
Copper	<22.1	250	0.5	N.T.	N.T.	5.1
Lead	<2.5	1,000	<0.6	N.T.	N.T.	<2.5
Mercury	<0.1	20	0.3 IN OIL	N.T.	N.T.	<0.1
Molybdenum	<8.3	3,300	<0.25	N.T.	N.T.	<1.0
Nickel	<6.4	1,000	0.4	N.T.	N.T.	3.2
Selenium	<11.5	100	<1.25	N.T.	N.T.	<2.5
Silver	<2.5	300	<0.65	N.T.	N.T.	<2.5
Thallium	<3.5	100	<0.05	N.T.	N.T.	<2.5
Vanadium	<21.0	2,400	<0.125	N.T.	N.T.	9.9
Zinc	<75.7	2,500	6.3	N.T.	N.T.	16.0
Others						
16 Volatiles (ug/kg)	<3.24	N.A.	N.T.	7.57	9.01	6.34
Chloride (ug/kg)	<0.2	N.A.	N.T.	N.T.	<0.2	N.T.

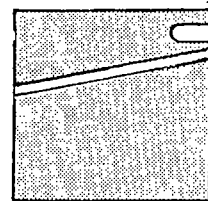
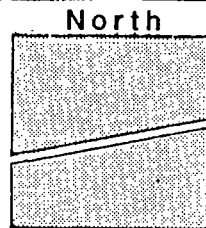
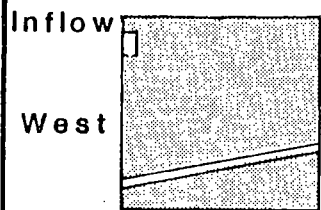
N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL INDETECTABLE LIMIT CONCENTRATION

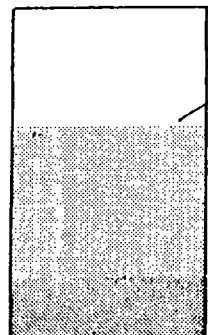
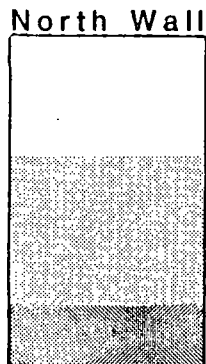
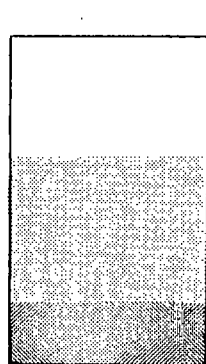
\* - ug/kg



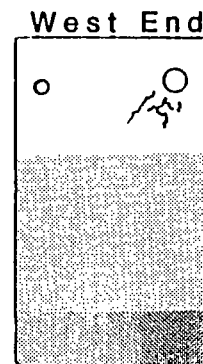
discharge to  
sewer  
clean out  
  
1.5" water pipe

General Description  
3-stage monolithically constructed  
clarifier. Walls partially coated.  
General condition is good except for  
deterioration near Inflow  
and discharge pipes

Direction of flow

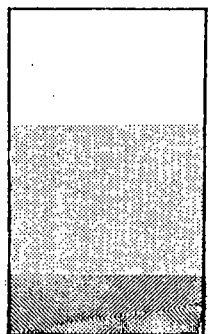
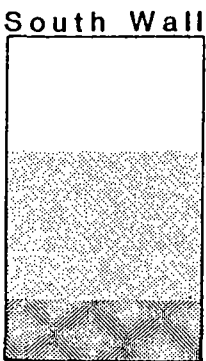
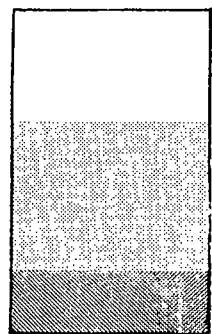


walls coated with  
chemically resistant  
resin to this point  
  
depth of sediment  
prior to removal

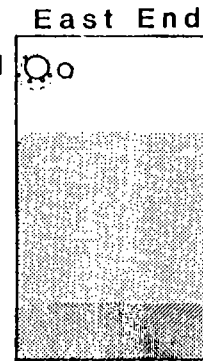


Concrete is deteriorated  
and cracked around  
Inflow pipe which is  
severely rusted

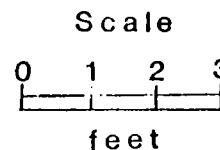
incomplete concrete  
pour (no conduit)



deterioration around  
discharge  
possible conduit



poor concrete finishing  
(probably not conduit)



B-1-A1
INSPECTION DIAGRAM
GREGG & ASSOCIATES, INC



FIELD PROGRAM

One boring, which was converted to a suction lysimeter, and one vapor monitoring well were drilled/installed to assess conditions surrounding Tank B-1-AJ. Several program changes were made concerning tanks in this area, all of which were discussed with Mr. Al Novak of the RWQCB.

Monitorin Installations

Boring/Suction Lysimeter B-1-AJ-B1/SL1 was drilled/installed to monitor the tank as indicated by Mr. Novak of the RWQCB. The location of the boring/suction lysimeter is indicated on the site map.

Sampling Intervals

Soil samples from the boring/suction lysimeter were to have been collected at depths of 5, 12, 17, 25 and 40 feet according to the Work Plan. However, in order to expedite the sampling precedure, intervals were shifted to 5, 10, 15, 30 and 40 feet. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampled intervals will significantly alter the chemical concentration profile of the soil.

Field Observations

The dark gray medium to fine grain size of the sand remained consistent throughout the entire borhole. The occurence of cobbles remained sporadic throughout the excavation.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. The soils from just below the surface had a strong but steadily decreasing odor, indicating possible contamination.

Monitoring Installations

Vapor Monitoring Well B-1-AJ-MV1 was installed to monitor the tank as indicated by Mr. Novak of the RWQCB. The location of the vapor monitoring well is indicated on the site map.

### Sampling Intervals

Soil samples were taken from the excavation for the vapor monitoring well at a depth of 12 feet, as approved in the Work Plan.

### Field Observations

The dark gray color and medium to coarse grain size of the sand remained consistent throughout the first 8 feet of borehole. At 8 feet, the sand became dark brown and the gravel and cobble fraction decreased.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. The soils from just below the surface to 12 feet had a strong odor, indicating possible contamination.

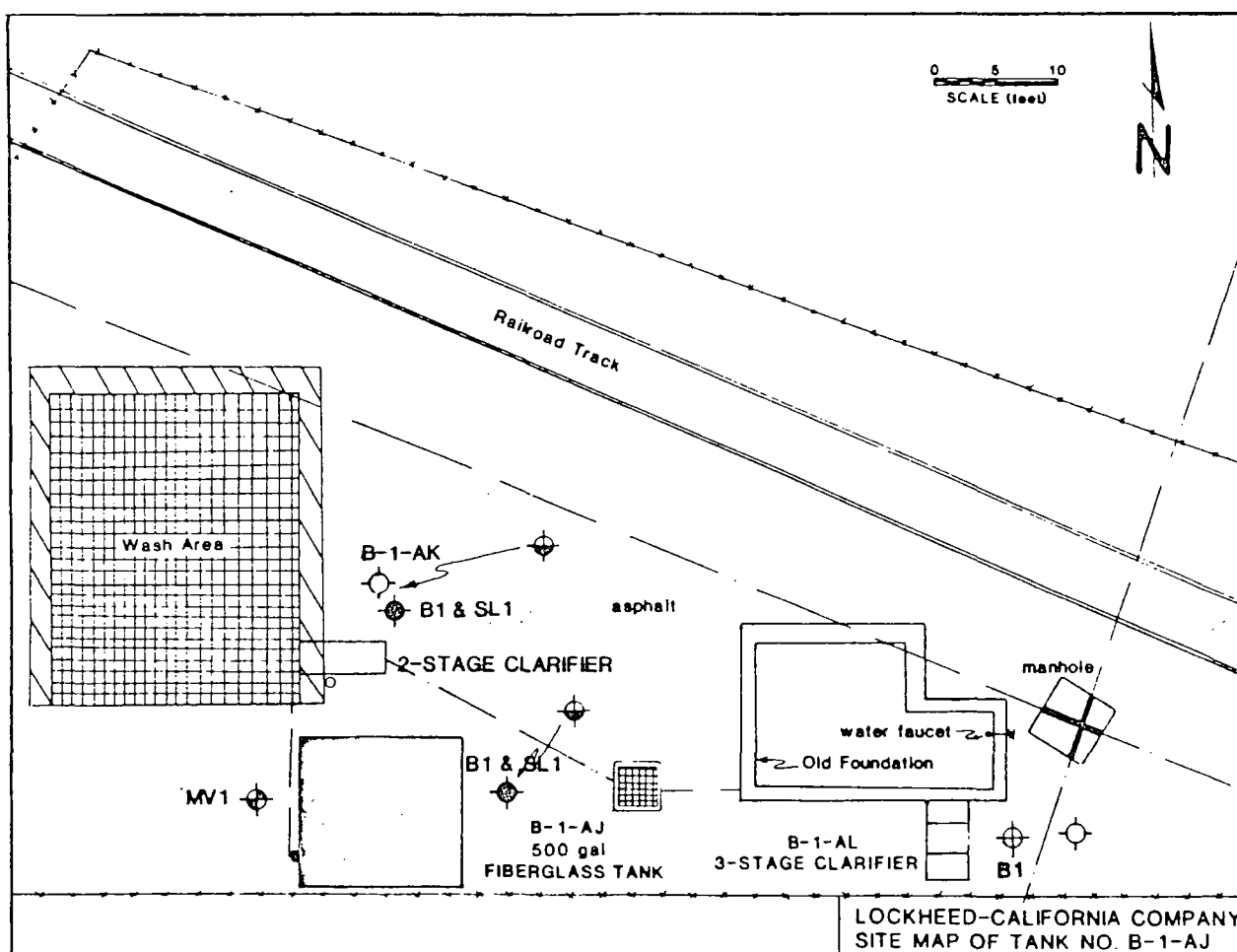
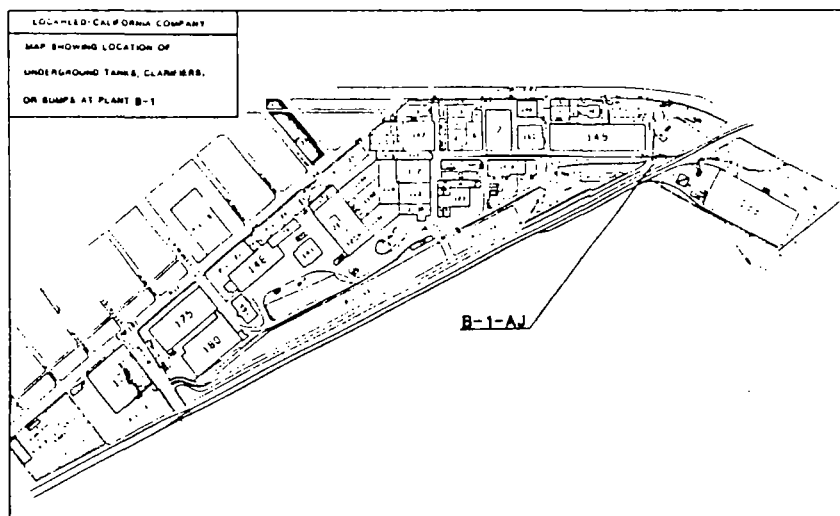
### LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample was collected from Tank B-1-AJ and treated with nitric acid to maintain metals in soluble form for subsequent CAM metals analysis. A second liquid sample was collected and analyzed for volatile organic compounds and pH. Individual soil samples were collected from Boring B-1-AJ-B1 and analyzed for volatile organics, oil and grease, CAM metals, and pH. A sample was collected from Vapor Monitoring Well B-1-AJ-MV1 and analyzed for oil and grease and pH.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AJ. The treated liquid sample was found to contain concentrations of CAM metals that are below the limits of detection. The untreated liquid sample was reported to have a very low pH (1.53). Volatile organic compounds were found to be below the limits of detection in the untreated liquid sample. The levels of volatile organic compounds, oil and grease, CAM metals, and pH in the soil samples collected from Boring B-1-AJ-B1 were found to be below the limits of detection or near the levels reported for the background samples. The soil sample from Vapor Monitoring Well B-1-AJ-MV1 was found to contain a concentration of oil and grease and a pH that are near the background levels.

Conclusions - Based on field observations (slight odor) and laboratory analysis results, it is concluded that Tank B-1-AJ is not leaking.

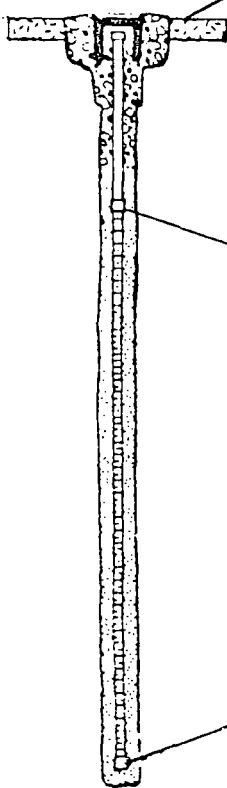
Recommendations - Proceed with quarterly monitoring of the suction lysimeter and the vapor monitoring well.



0838

Tank No.	B-1-AJ	
Plant No./Nearest Bldg.	B-1/Bldg. 149 (wash area)	
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	500
	Use/Process	Wash unit holding tank
	Contents (past, CAS No., date)	Oil and grease
	(present, CAS No.)	Water, oil and grease
	Construction Materials	Fiberglass
	Geometry	Cylindrical
	Depth To Top	UNK
	Depth To Invert	UNK
	Diameter	UNK
	Length (l)	UNK
	Containment	None
	Corrosive Protection (2)	UNK
	Status	Currently inactive
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Asphalt
	Appearance	Disturbed asphalt
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	H.S. Auger
	Borings (No.)	1
	Sample Depths	61/5, 10, 15, 30, 40 ft
	Vapor Wells/Lysimeters (No.)	2
	Sample Depths	SL1/REF. TO 61 MV1/12 ft
	Completion Interval	SL1/4 ft MV1/6-11.7 ft
Laboratory Program (4)	No. of Tank Content Samples	3
	Parameters	CAR, pH Vol. Org.
	No. of Tank Soil Samples	6
	Parameters	Hydrocarbons, pH Vol. Org.

0000

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -	Asphalt	45	0838 Asphalt
	- 1 -	Sand, medium to coarse grain, dark brown to black, w/some cobbles, slightly moist, odor similar to a solvent		Sand, medium to coarse grain, dark brown to black, w/some cobbles, slightly moist, odor similar to a solvent
	- 2 -			
	- 3 -			
	- 4 -			
	- 5 -			Sand, color change to gray
	- 6 -			
	- 7 -			
	- 8 -			
	- 9 -			Sand, color change to dark brown
	- 10 -			
	- 11 -			
	- 12 -			
	- 13 -			
	- 14 -			
	- 15 -			
	- 16 -			
	- 17 -			
	- 18 -			
	- 19 -			
	- 20 -			

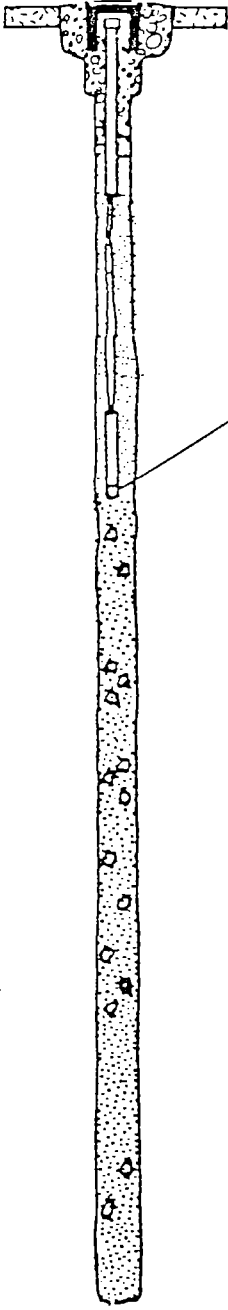
COMPLETION & BACKFILL

- Blank 2-in I.D. PVC pipe, 0-6 ft
- Screened 2-in I.D. PVC pipe, 6-11.7 ft
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand, 5-12 ft

TANK NO. B-1-AJ

MONITORING WELL NO. B-1-AJ-MV1

GREGG & ASSOCIATES, INC.

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -	Asphalt		0838
	- 2 -	Sand, fine to medium grain, gray black, w/some cobbles, solvent odor		
	- 4 -			
	- 6 -		21	
	- 8 -			
	- 10 -		35	
	- 12 -			
	- 14 -		36	
	- 16 -			
	- 18 -			
	- 20 -			
	- 22 -			
	- 24 -			Decreasing odor w/depth
	- 26 -			
	- 28 -			
	- 30 -		42	
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		46	No odor

#### COMPLETION & BACKFILL

- Suction Lysimeter at 9 ft
- Blank 2-in I.D. PVC pipe, 0-5 ft
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand & native mix 5-10 ft
- Native material, caved 10-40 ft

TANK NO. B-1-AJ

BORING NO. B-1-AJ-B1

GREGG & ASSOCIATES, INC.



TABLE B-1-AJ: RESULTS OF CHEMICAL ANALYSES

PARAMETER	BACK- GROUND SAMPLE	TILC	B-1-AJ LIQUID TREATED	B-1-AJ LIQUID UNTREATED	B-1-AJ B1 5 ft.	B-1-AJ B1 10 ft.	B-1-AJ B1 15 ft.	B-1-AJ B1 30 ft.	B-1-AJ B1 40 ft.	B-1-AJ B1 12 ft.
Volatile Organics (ug/kg)		N.A.	N.T.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.T.
Benzene	<0.2									
Ethyl Benzene	<0.1									
Chloroform	<0.1									
Chloromethane	<0.2									
Chloroethane	<0.8									
1,1-Dichloroethane	<0.1									
1,2-Dichloroethane	<0.1									
1,2-Dichloropropane	<0.1									
1,1,1-Trichloroethane	<0.2									
1,1,2-Trichloroethane	<0.1									
Bromodichloromethane	<0.1									
Dibromochloromethane	<0.1									
1,1-Dichloroethene	<0.1									
trans-1,2-Dichloroethene	<0.1									
Trichloroethene	<0.3	* 2,040								
Tetrachloroethene	<0.4									
Toluene	<0.4									
Methyl Ethyl Ketone	<0.5									
Petroleum Hydrocarbon (ug/kg)	<2.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Oil & Grease (ug/kg)	N.T.	N.A.	N.T.	N.T.	0.8	1.1	0.8	<0.5	<0.5	2.7
CAM Metals (ug/kg)				N.T.	N.T.		N.T.	N.T.		N.T.
Antimony	<2.5	500	<0.005			<2.5			<2.5	
Arsenic	13.4	500	<0.005			8.95			13.5	
Barium	91.9	10,000	<0.01			58.6			103	
Beryllium	<1.0	75	<0.02			<1.0			1.0	
Cadmium	<2.5	100	0.001			<0.5			<0.5	
Chromium (Total)	9.6	2,500	<0.01			8.6			14.4	
Cobalt	6.5	8,000	<0.02			1.4			7.7	
Copper	22.1	250	<0.02			9.2			13.9	
Lead	<2.5	1,000	<0.005			<2.5			<2.5	
Mercury	<0.1	20	<0.0005			<0.1			<0.1	
Molybdenum	6.3	3,500	<0.02			4.0			13.9	
Nickel	8.4	2,000	<0.01			6.8			12.2	
Selenium	<2.5	100	<0.005			<2.5			<2.5	
Silver	<2.5	500	<0.05			<2.5			<2.5	
Thallium	<2.5	700	<0.005			<2.5			<2.5	
Vanadium	22.0	2,400	<0.01			19.6			33.1	
Zinc	38.7	2,500	0.72			23.5			44.2	
Others			N.T.	1.53	8.47	7.74	8.07	N.T.	N.T.	8.54
pH (standard units)	8.24	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Sodium (ug/kg)	N.T.	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Cyanide (ug/kg)	<0.2	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Sulfate (ug/kg)	N.T.	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TILC - TOTAL THRESHOLD LIMIT CONCENTRATION

FIELD PROGRAM

One boring, which was converted to a suction lysimeter, was drilled/installed to assess conditions surrounding Clarifier B-1-AK.

BORING B-1-AK-B1/SUCTION LYSIMETER B-1-AK-SL1

Monitoring Installations - Boring/Suction Lysimeter B-1-AK-B1/SL1 was drilled/installed to monitor the clarifier as indicated in the approved Work Plan. The location of the boring is shown on the site map.

Sampling Intervals - Soil samples from the boring/suction lysimeter were to have been collected at depths of 5, 12, 17, 25 and 40 feet according to the Work Plan. However, in order to expedite sampling, the depths of the samples were shifted to 5, 10, 15, 30 and 40 feet. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampled intervals will significantly alter the chemical profile of the soil.

Field Observations - The gray color and medium grain size of the sand remained consistent throughout the first 18 feet of the boring/suction lysimeter. At 18 feet, the sand became a dark brown color.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. The soil from just below the surface to 40 feet had a strong odor indicating possible contamination. The odor diminished greatly, however, at 25 feet.

LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - Individual-depth soil samples were collected from Boring B-1-AK-B1 and analyzed for volatile organic compounds, oil and grease, CAM metals, and pH as approved in the Work Plan.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AK. The concentrations of volatile organic compounds were found to be below the limits of detection in all of the samples. Low levels of oil and grease were found in the five foot and ten foot samples (4.2 and 7.7 mg/kg, respectively). Several CAM metals were found to be present in the 40-foot sample at slightly elevated concentrations ranging.

The CAM metal concentrations found in the 10-foot sample and the pH levels of all samples were reported to be below the limits of detection or near the levels found in the background samples.

CONCLUSIONS

Based on field observations (slight odor) and laboratory analyses, it is concluded that Clarifier B-1-AK may possibly be leaking.

RECOMMENDATION

Additional sampling and analysis is required to determine if the high levels of CAM metals found in the 40 foot sample and the low levels of oil and grease in the shallow samples are due to clarifier leakage.

## TANK NUMBER B-1-AK supplement

ADDITIONAL INVESTIGATIONS

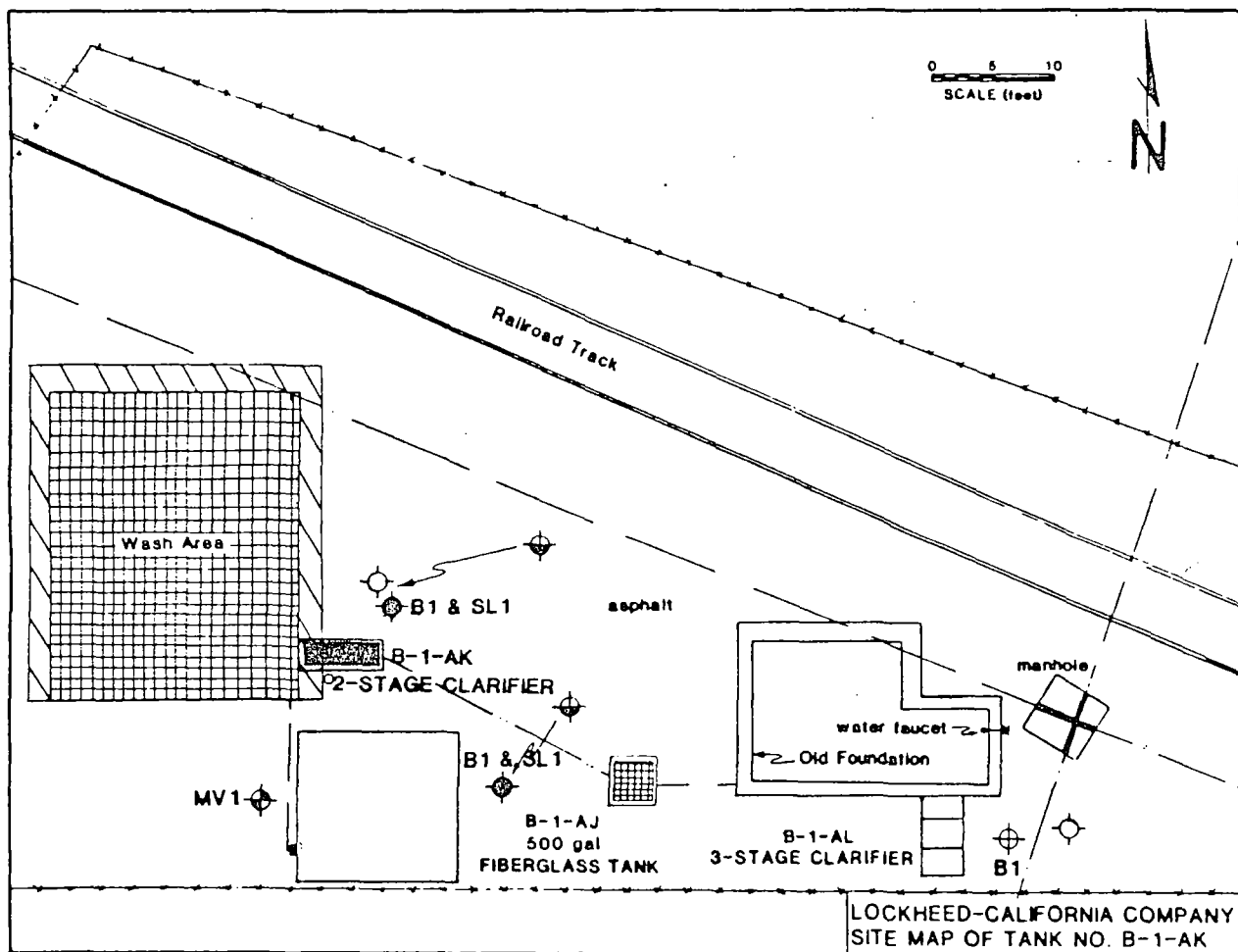
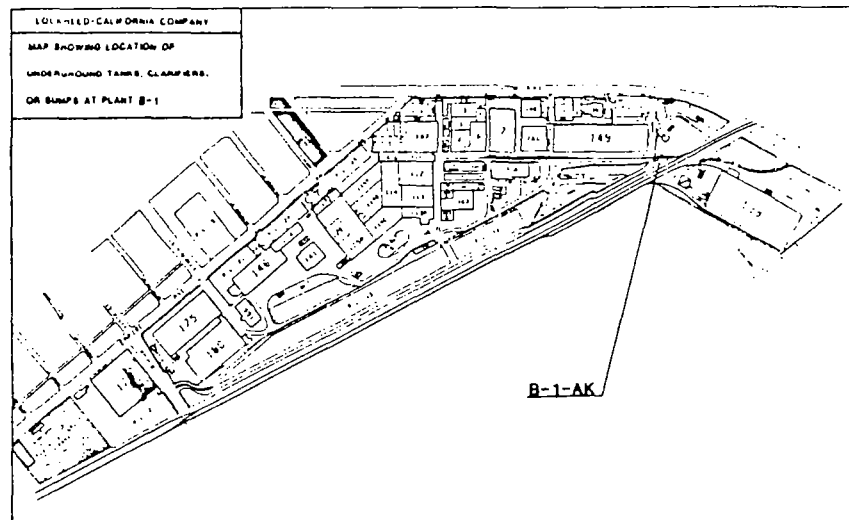
Clarifier B-1-AK, a two-stage clarifier, currently receives condensate from a steamcleaner pressure relief valve. The clarifier was originally used to disseminate solids from waste water collected in the bermed spray wash area. The clarifier is constructed of monolithically formed reinforced concrete. Because the clarifier was constructed prior to common usage of single sheet forms, the surface of the concrete has rough wood grain marks left by individual 2- by 6-inch board forms. The inflow enters through a grated cover over the first stage. The clarifier discharges through a 4-inch pipe in the second stage. To determine the source of the moderate to high CAM metal concentrations found in the adjacent soil during the initial drilling near Clarifier B-1-AK, a visual inspection of the clarifier was conducted. This inspection was done with approval by Mr. Al Novak (RWQCB).

On the day of inspection (May 21, 1985), the clarifier contained 1.5 feet of sediment under 2 feet of basically clean water. The water was pumped out and the sediment removed by shoveling. The clarifier was then steamcleaned and pumped dry again. Because the steam condensate continued to discharge into the first stage, that chamber was not physically entered but was instead, inspected from above. The second stage chamber was entered and closely inspected. The details of the visual inspection are illustrated on the accompanying diagram. There were no significant structural inadequacies or leaks apparent. There was, however, some concrete deterioration about 10 inches in diameter where the condensate discharges against the south wall of the first stage chamber. This is strictly a surficial blemish and probably not a conduit. There was also a small "pock mark" or indentation on the south wall of the first stage, apparently the result of poor tamping of concrete into the forms during construction. This small hole does not penetrate the entire width of the wall and is not a likely conduit.

It is concluded, based on visual inspection, that the clarifier is not leaking.

FURTHER RECOMENDATIONS

Proceed with quarterly monitoring of the suction lysimeter.



Tank No.	5-1-HR
Plant No./nearest bldg.	6-1-bldg. 149 Wash. area
Tank:	Location: 1705 Victory Field
	Installation date: UNK
	Capacity, gal.: UNK
	User/Process: Wash Unit Degreaser Clarifier (2-stage)
	Contents (past, CAS No., date): UNK
	(present, CAS No.): UNK
	Construction Materials: Concrete
	Geometry: Rectangular
	Depth to Top: UNK
	Depth to Invert: UNK
	Diameter: UNK
	Length (ft): UNK
	Containment: none
	Corrosive Protection (2): UNK
	Status: Currently inactive
Tank Piping:	Number: UNK
	Type: UNK
	Construction mat.: Steel
Sites:	Paving Material/Thickness: Asphal/1
	Appearance: Disturbed asphalt
	Surface Contamination: UNK
Drilling Program:	Rig Type/Requirements (1): H.S. nuger. Inspection
	Borings (No.): 1
	Sample Depths: 51/5, 10, 15, 30, 40 ft
	Vapor wells/cylinders (No.): 1
	Sample Depths: SLT/REF. 10 SL
	Completion Interval: SLT/REF
Laboratory Program (4):	No. of Tank Content Samples: 0
	Parameters:
	No. of Tank Soil Samples: 5
	Parameters: CMA, hydrocarbons, pH, Vol. Org.

Inflow  
Pressure relief from steam condensate lines

West

East

direction of flow →

No structural  
deficiencies noted

West End

General Description  
2-stage monolithically  
constructed concrete clarifier  
formed using 2"x6" rough/  
hewn boards (results in  
wood grain texture on  
surfaces)  
general condition of  
clarifier is good

North Wall

West

East

depth of sediment  
prior to removal

East End

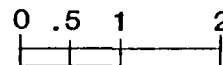
South wall

East

West

deteriorated concrete  
(apparently the result  
of condensate blowdown  
eroding concrete)

Scale in feet



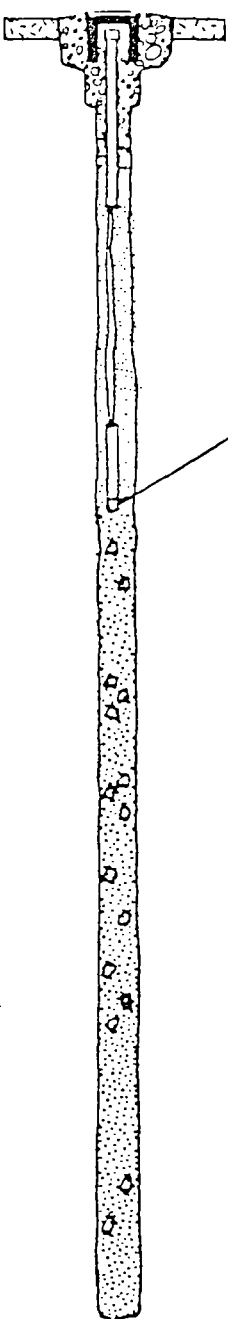
B-1-AK

INSPECTION DIAGRAM

GREGG & ASSOCIATES INC.

0838

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CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -			- Asphalt
	- 2 -			- Sand, medium grain, gray, some odor
	- 4 -			
	- 6 -		19	
	- 8 -			
	- 10 -		25	
	- 12 -			
	- 14 -			
	- 16 -		41	- Sand, medium grain, gray, continued odor
	- 18 -			- Sand, color change to dark brown
	- 20 -			
	- 22 -			
	- 24 -			
	- 26 -			- Decreased odor
	- 28 -			
	- 30 -		50+	
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		48	

## COMPLETION &amp; BACKFILL

- Suction Lysimeter  
at 9 ft
- Blank 2-in I.D.  
PVC pipe, 0-5 ft
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand & native mix  
5-12 ft
- Native material, caved  
12-40 ft

TANK NO. B-1-AKBORING NO. B-1-AK-B1

GREGG &amp; ASSOCIATES, INC.



TABLE B-1-AK: RESULTS OF CHEMICAL ANALYSES

PARAMETER	BACK- GROUND SAMPLE	TTL C	B-1-AK B1 5 ft.	B-1-AK B1 10 ft.	B-1-AK B1 15 ft.	B-1-AK B1 (DUP.) 15 ft.	B-1-AK B1 30 ft.	B-1-AK B1 40 ft.
Volatile Organics (ug/kg)		N.A.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	<0.2							
Ethyl Benzene	<0.1							
Chloroform	<0.1							
Chloromethane	<0.2							
Chloroethane	<0.8							
1,1-Dichloroethane	<0.1							
1,2-Dichloroethane	<0.1							
1,2-Dichloropropane	<0.1							
1,1,1-Trichloroethane	<0.2							
1,1,2-Trichloroethane	<0.1							
Bromodichloromethane	<0.1							
Dibromochloromethane	<0.1							
1,1-Dichloroethene	<0.1							
trans-1,2-Dichloroethene	<0.1							
Trichloroethene	<0.3	* 2,040						
Tetrachloroethene	<0.4							
Toluene	<0.4							
Methyl Ethyl Ketone	<0.5							
Petroleum Hydrocarbon (mg/kg)	<2.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Oil & Grease (mg/kg)	N.T.	N.A.	4.2	7.7	0.8	N.T.	0.8	<0.5
CAM Metals (mg/kg)			N.T.		N.T.	N.T.	N.T.	
Antimony	<2.5	500		<2.5				<2.5
Arsenic	13.4	500		6.7				21.9
Barium	91.9	10,000		40.3				186
Beryllium	<1.0	75		<1.0				1.0
Cadmium	<2.5	100		<0.5				<0.5
Chromium (Total)	9.6	2,500		5.9				24.7
Cobalt	6.5	8,000		1.9				12.0
Copper	22.1	250		5.3				28.0
Lead	<2.5	1,000		<2.5				3.5
Mercury	<0.1	20		<0.1				<0.1
Molybdenum	6.3	3,500		4.4				24.0
Nickel	8.4	2,000		3.7				20.0
Selenium	<2.5	100		<2.5				<2.5
Silver	<2.5	500		<2.5				<2.5
Thallium	<2.5	700		<2.5				<2.5
Vanadium	22.0	2,400		11.9				43.8
Zinc	38.7	2,500		20.2				67.7
Others						N.T.		
pH (standard units)	8.24	N.A.	8.32	7.82	7.50		8.84	8.77
Sodium (mg/kg)	N.T.	N.A.	N.T.	N.T.	N.T.		N.T.	N.T.
Cyanide (mg/kg)	<0.2	N.A.	N.T.	N.T.	N.T.		N.T.	N.T.
Sulfate (mg/kg)	N.T.	N.A.	N.T.	N.T.	N.T.		N.T.	N.T.

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

\* mg/kg

FIELD PROGRAM

One boring was drilled to assess conditions surrounding Clarifier B-1-AL.

BORING B-1-AL-B1

Monitoring Installations - Boring B-1-AL-B1 was drilled to monitor the clarifier as indicated in the approved Work Plan. The location of the boring is shown on the site map.

Sampling Intervals - Soil samples were taken from the Boring at depths of 5, 12, 17, 25 and 40 feet, as approved in the Work Plan.

Field Observations - The dark brown color and medium to coarse grain size of the sand remained consistent throughout the first 12 feet of the boring. At 12 feet, the color of the sand changed from dark brown to light brown.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. There were no indications of contamination.

LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample was collected from Clarifier B-1-AL and treated with nitric acid to maintain metals in soluble form for subsequent CAM metals analysis. A second liquid sample was collected and analyzed for volatile organics and pH. Individual soil samples were composited and analyzed for volatile organics and pH. Individual soil samples were composited and analyzed for volatile organics, petroleum hydrocarbons, and pH. These analyses have been approved in the Work Plan.

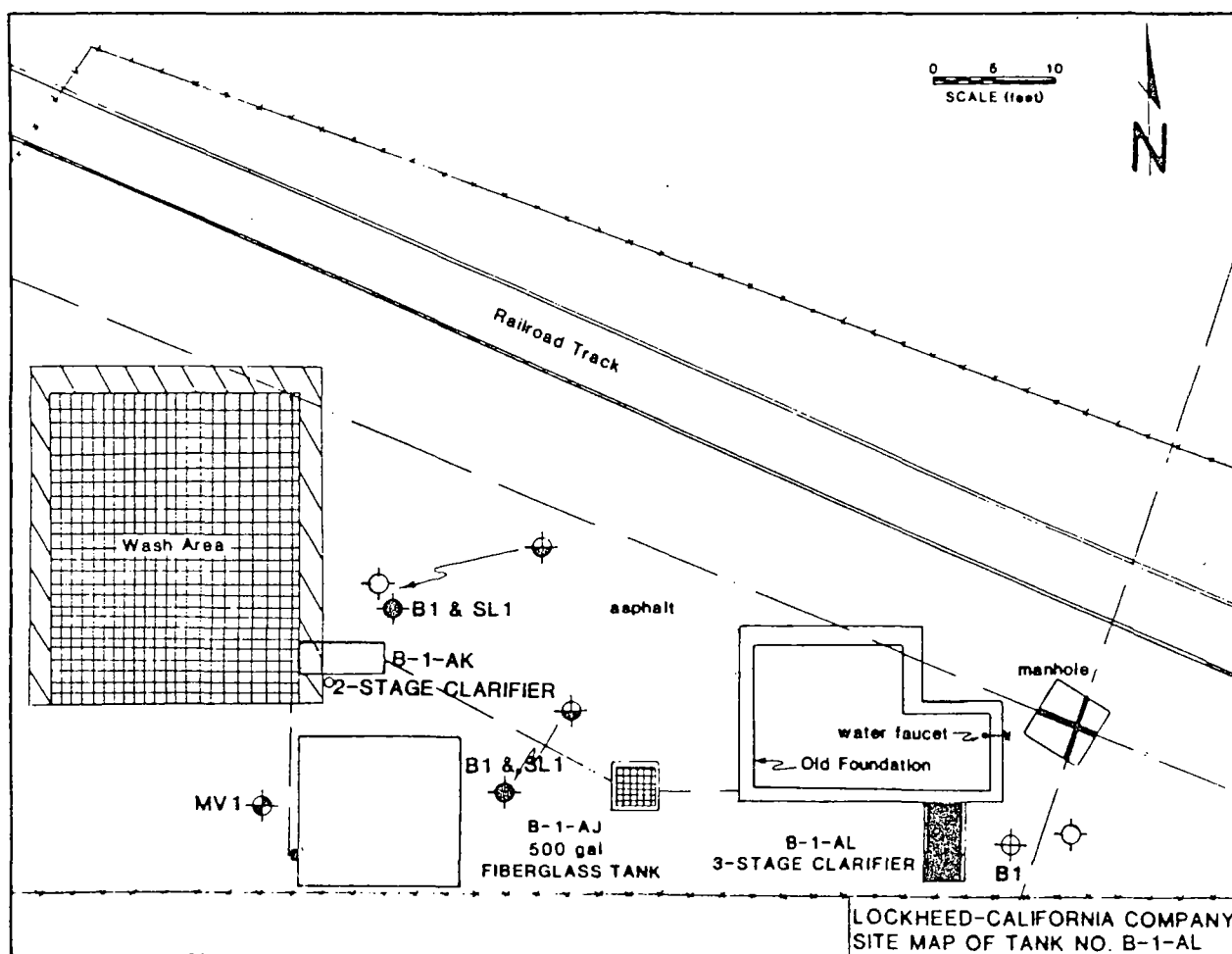
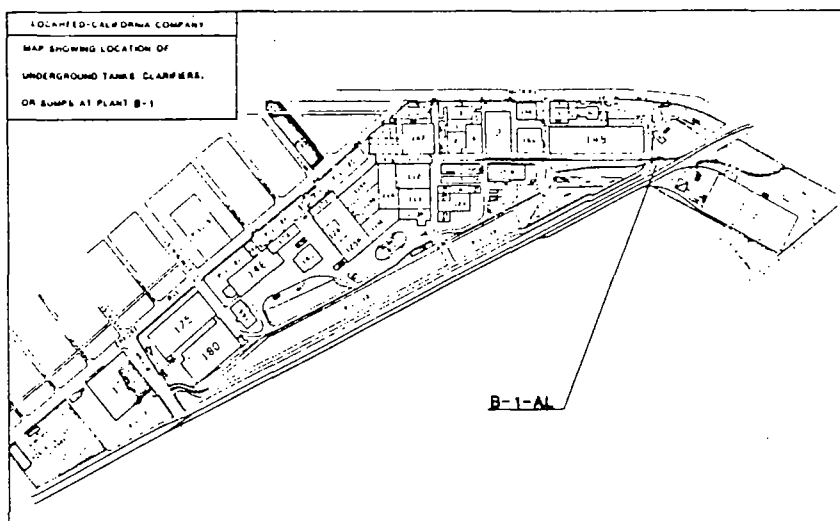
Laboratory Analysis - The pertinent laboratory analysis results are presented in Table B-1-AL. The treated liquid sample of the contents of Clarifier B-1-AL was found to contain concentrations of CAM metals that are below the limits of detection or near the levels reported for the background samples. The untreated liquid sample was found to have a concentration of 10.8 mg/kg petroleum hydrocarbons. Levels of volatile organic compounds and pH were reported to be below the limits of detection or near the levels found in the background samples. The concentrations of volatile organic compounds and petroleum hydrocarbons and the pH level in the composited soil sample from Boring B-1-AL-B1 were found to be below the limits of detection or near the levels reported for the background samples.

CONCLUSIONS

Based on field observations and laboratory analyses, it is concluded that Clarifier B-1-AL is not leaking.

RECOMMENDATION

Proceed with quarterly monitoring of the suction lysimeter.



FIELD PROGRAM

One boring, which was converted to a vapor monitoring well, and one exclusive boring were drilled/installed to assess conditions surrounding Sump B-1-AM.

**BORING B-1-AM-B1/VAPOR MONITORING WELL B-1-AM-MV1**

Monitoring Installations - Boring B-1-AM-B1/Vapor Monitoring Well B-1-AM-MV1 was drilled/installed to monitor the waste oil sump as indicated in the approved Work Plan. Three attempts were made to drill the boring to the planned depth. Underground obstructions prevented successful completion of the first two attempts. The third attempt reached a successful depth of 40 feet. The location of the boring/vapor monitoring well is indicated on the site map.

Sampling Intervals - Soil samples from the boring were to have been collected at depths of 5, 11, 16, 25 and 40 feet according to the Work Plan. However, because of the contamination present, the number of samples collected was increased. Depths sampled were 3, 5, 9, 14, 30 and 40 feet.

Field Observations - The gray medium to coarse grain size of the sand remained consistent throughout the first 23 feet of the boring. At 23 feet, the sand became brown in color and the gravel and cobble fraction increased.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. The soils from 2 feet to 40 feet had a strong odor indicating possible contamination.

**BORING B-1-AM-B2**

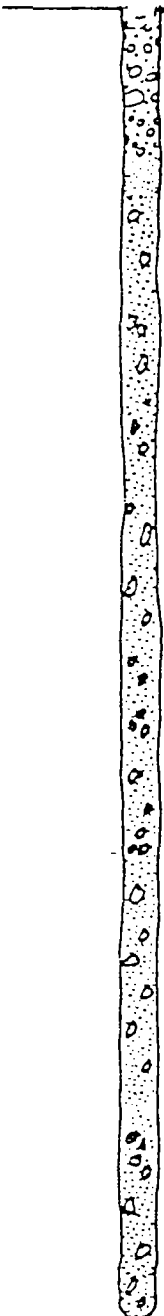

Monitoring Installations - Boring B-1-AM-B2 was drilled to monitor the waste oil sump as indicated in the approved Work Plan. The location of the boring is indicated on the site map.

Sampling Intervals - Soil samples from the boring were to have been collected at depths of 5, 11, 16, 25 and 40 feet according to the Work Plan. However, to expedite the sampling process, samples were collected from depths of 7, 16, 23, 30 and 40 feet. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampled intervals will significantly alter the chemical concentration profile of the soil.

Field Observations - The gray medium to coarse grain size of the sand remained consistent throughout the first 14 feet of the boring. At 14 feet, the color of the sand became brown, and the

Tank No.	B-1-AL	
Plant No./Nearest Bldg.	B-1/Bldg. 149 (Wash area)	
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	UNK
	Use/Process	Wash unit clarifier (3-stage)
	Contents (past, CAS No., date)	UNK
	(present, CAS No.)	UNK
	Construction Materials	Concrete
	Geometry	Rectangular
	Depth To Top	UNK
	Depth To Invert	UNK
	Diameter	3.5 ft
	Length (1)	6.5 ft
	Containment	None
	Corrosive Protection (2)	UNK
	Status	To be abandoned
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Asphalt
	Appearance	Disturbed asphalt
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	H.S. Auger
	Borings (No.)	1
	Sample Depths	81/5, 12, 18, 25, 40 ft
	Vapor Wells/Lysimeters (No.)	0
	Sample Depths	
	Completion Interval	
Laboratory Program (4)	No. of Tank Content Samples	3
	Parameters	CAN, pH, Vol. Org. Hydrocarbons
	No. of Tank Soil Samples	1 (Comp.)
	Parameters	pH, Vol. Org. Hydrocarbons

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CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -		13	-Asphalt
	- 2 -			-Sand,medium to coarse grain,dark brown
	- 4 -			
	- 6 -			
	- 8 -			
	- 10 -			
	- 12 -		45	-Sand,fine to medium grain,light brown
	- 14 -			
	- 16 -			
	- 18 -		50 +	
	- 20 -			
	- 22 -			
	- 24 -			
	- 26 -		50 +	
	- 28 -			
	- 30 -			
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		50 +	

## COMPLETION &amp; BACKFILL

-Asphalt, 0-0.5 ft  
 -Concrete, 0.5-4 ft  
 -Bentonite, 4-5 ft  
 -Native material, backfill  
 5-40 ft

TANK NO. B-1-ALBORING NO. B-1-AL-B1

TABLE B-1-AL: RESULTS OF CHEMICAL ANALYSES

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PARAMETER	BACK- GROUND SAMPLE	TTL C	B-1-AL LIQUID TREATED	B-1-AL LIQUID UNTREATED	B-1-AL BI COMPOSITE
Volatile Organics (ug/kg)		N.A.	N.T.	N.D.	N.D.
Benzene	<0.2				
Ethyl Benzene	<0.1				
Chloroform	<0.1				
Chloromethane	<0.2				
Chloroethane	<0.8				
1,1-Dichloroethane	<0.1				
1,2-Dichloroethane	<0.1				
1,2-Dichloropropane	<0.1				
1,1,1-Trichloroethane	<0.2				
1,1,2-Trichloroethane	<0.1				
Bromodichloromethane	<0.1				
Dibromochloromethane	<0.1				
1,1-Dichloroethene	<0.1				
trans-1,2-Dichloroethene	<0.1				
Trichloroethene	<0.3	* 2,040			
Tetrachloroethene	<0.4				
Toluene	<0.4				
Methyl Ethyl Ketone	<0.5				
Petroleum Hydrocarbon (mg/kg)	<2.0	N.A.	N.T.	N.T.	<0.5
Oil & Grease (mg/kg)	N.T.	N.A.	N.T.	10.8	N.T.
CAM Metals (mg/kg)				N.T.	N.T.
Antimony	<2.5	500	<0.25		
Arsenic	13.4	500	<0.25		
Barium	91.9	10,000	19.1		
Beryllium	<1.0	75	<0.1		
Cadmium	<2.5	100	0.30		
Chromium (Total)	9.6	2,500	1.20		
Cobalt	6.5	8,000	<0.1		
Copper	22.1	250	1.1		
Lead	<2.5	1,000	4.0		
Mercury	<0.1	20	N.T.		
Molybdenum	6.3	3,500	0.20		
Nickel	8.4	2,000	0.30		
Selenium	<2.5	100	<0.25		
Silver	<2.5	500	0.5		
Thallium	<2.5	700	<0.05		
Vanadium	22.0	2,400	<0.05		
Zinc	38.7	2,500	21.7		
Others			N.T.		
pH (standard units)	8.24	N.A.		7.69	8.30
Sodium (mg/kg)	N.T.	N.A.		N.T.	N.T.
Cyanide (mg/kg)	<0.2	N.A.		N.T.	N.T.
Sulfate (mg/kg)	N.T.	N.A.		N.T.	N.T.

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

\* ug/kg



FIELD PROGRAM

One boring, which was converted to a vapor monitoring well, and one exclusive boring were drilled/installed to assess conditions surrounding Sump B-1-AM.

**BORING B-1-AM-B1/VAPOR MONITORING WELL B-1-AM-MV1**

Monitoring Installations - Boring B-1-AM-B1/Vapor Monitoring Well B-1-AM-MV1 was drilled/installed to monitor the waste oil sump as indicated in the approved Work Plan. Three attempts were made to drill the boring to the planned depth. Underground obstructions prevented successful completion of the first two attempts. The third attempt reached a successful depth of 40 feet. The location of the boring/vapor monitoring well is indicated on the site map.

Sampling Intervals - Soil samples from the boring were to have been collected at depths of 5, 11, 16, 25 and 40 feet according to the Work Plan. However, because of the contamination present, the number of samples collected was increased. Depths sampled were 3, 5, 9, 14, 30 and 40 feet.

Field Observations - The gray medium to coarse grain size of the sand remained consistent throughout the first 23 feet of the boring. At 23 feet, the sand became brown in color and the gravel and cobble fraction increased.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. The soils from 2 feet to 40 feet had a strong odor indicating possible contamination.

**BORING B-1-AM-B2**

Monitoring Installations - Boring B-1-AM-B2 was drilled to monitor the waste oil sump as indicated in the approved Work Plan. The location of the boring is indicated on the site map.

Sampling Intervals - Soil samples from the boring were to have been collected at depths of 5, 11, 16, 25 and 40 feet according to the Work Plan. However, to expedite the sampling process, samples were collected from depths of 7, 16, 23, 30 and 40 feet. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampled intervals will significantly alter the chemical concentration profile of the soil.

Field Observations - The gray medium to coarse grain size of the sand remained consistent throughout the first 14 feet of the boring. At 14 feet, the color of the sand became brown, and the

gravel and cobble fraction decreased. At 20 feet, the sand became very coarse. At 24 feet, the sand became finer and the color lighter.

The soil from 4 to 40 feet had a strong odor indicating possible contamination.

#### LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - Individual-depth samples were collected from Boring B-1-AM-B1 and analyzed for 1,2-dichloroethene, toluene, hexane, methyl cyclohexane, methyl-3-heptanone, and petroleum hydrocarbons. Volatile organic and oil and grease analyses were conducted on individual-depth samples collected from Boring B-1-AM-B2. A composite of the samples from Boring B-1-AM-B2 was analyzed for CAM metals.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AM. High levels of organic compounds were found in the soil samples collected from Borings B-1-AM-B1 and B-1-AM-B2. Very high concentrations of petroleum hydrocarbons were found in the three and five foot samples from Boring B-1-AM-B1 (490 and 19,500 mg/kg, respectively). The CAM metal analysis conducted on the B-1-AM-B2 soil composite identified several metal concentrations slightly above background levels (arsenic, chromium, and vanadium). The levels of these elements were, however, far below the TTLC levels.

#### CONCLUSIONS

Based on field observations (strong odor) and laboratory analysis results, it is concluded that Sump B-1-AM is possibly leaking. High levels of organic compounds were found in the soil samples collected from both Boring B-1-AM-B1 and Boring B-1-AM-B2. Very high levels of petroleum hydrocarbons were found at the shallower depths of Boring B-1-AM-B1. As the depth to the bottom of Sump B-1-AM is only six feet, the high levels of petroleum hydrocarbons could be attributed to sump leakage, although there is a high probability that contamination is from surface sources. Further, there is some construction debris present at shallow depths which could have also been accompanied by disposal of materials other than construction debris.

#### RECOMMENDATION

Sump inspection as well as additional drilling, sampling, and chemical analysis is required to determine the source and extent of soil contamination.

TANK NUMBER B-1-AM supplement

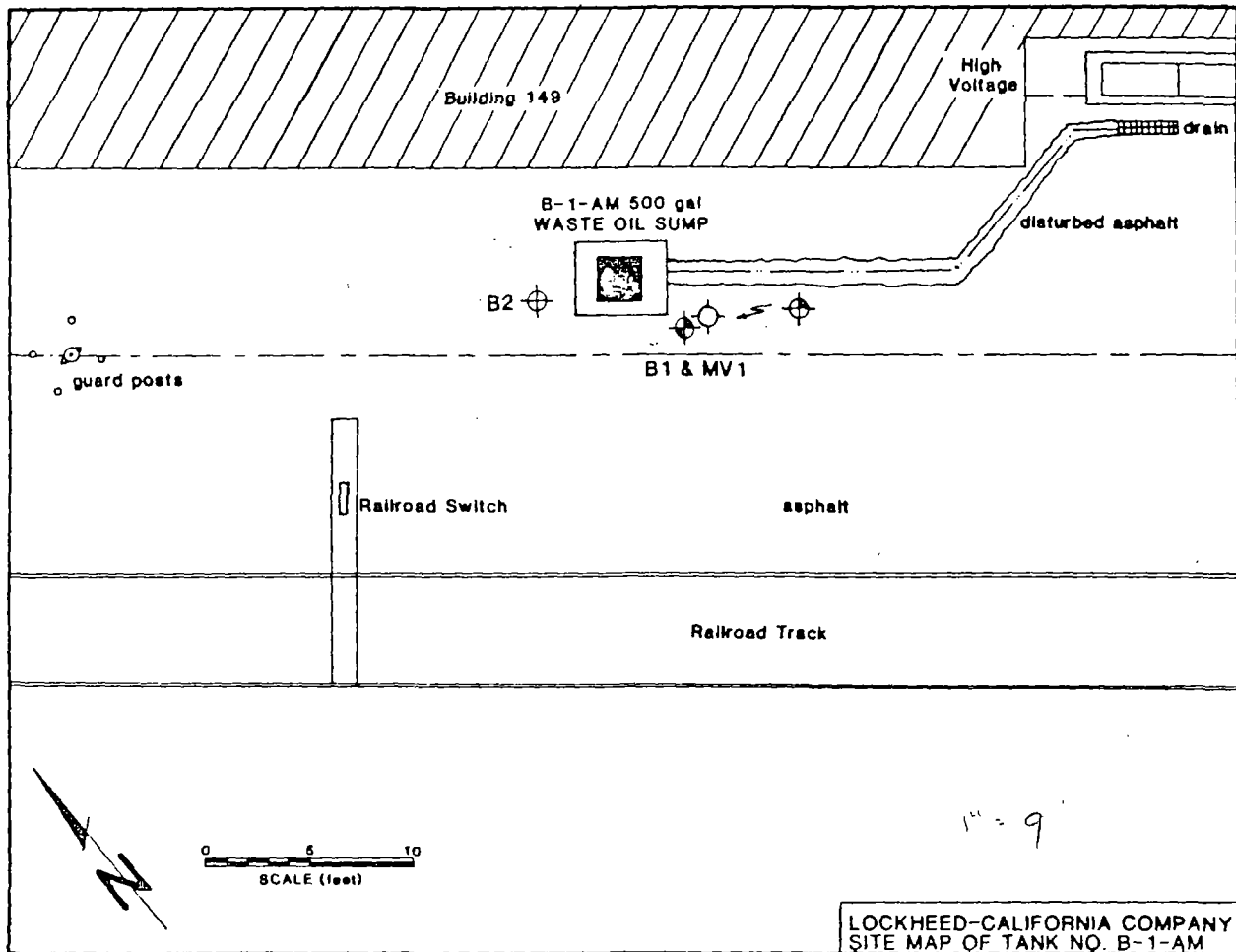
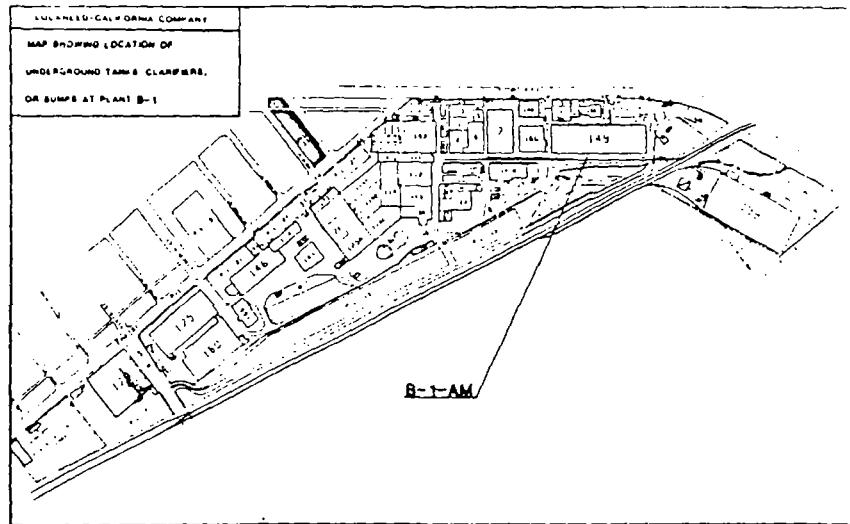
ADDITIONAL INVESTIGATIONS

Sump B-1-AM was inspected on May 6, 1985. This concrete sump, although larger, is similiar to Sumps B-1-AW and B-1-J in its operational use and construction. The sump is monolithic in construction and all walls are at least 5-inches thick. There are small horizontal joint marks present on the walls near the top and also near the bottom of the sump. These joint marks are merely small ridges of concrete which hardened between form boards and do not affect the integrity of the concrete. The surfaces are smooth except for the floor which is slightly uneven but apparently structurally sound.

Based on the results of the visual inspection it is concluded Sump B-1-AM is not leaking. The contamination present in the adjacent soil is probably attributable to the periodic overfilling of the sump or fugitive surface spillage of other materials.

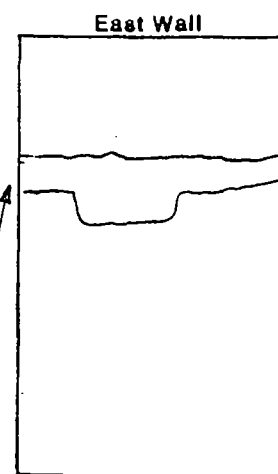
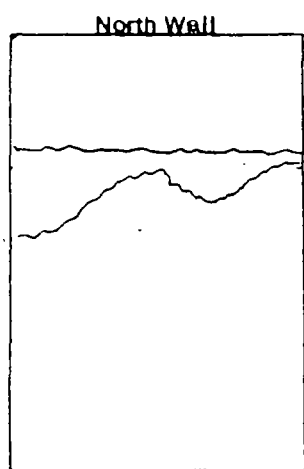
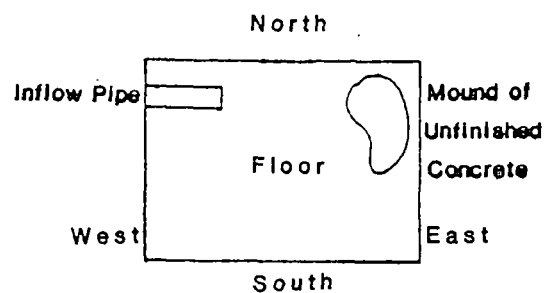
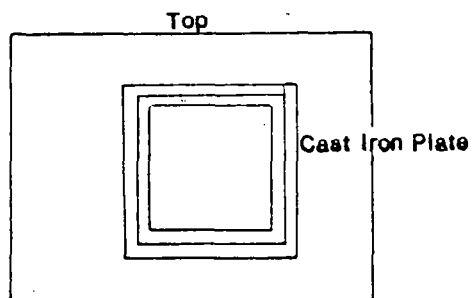
FURTHER RECOMENDATIONS

The walls of Sump B-1-AM are being extended to prevent overflow.

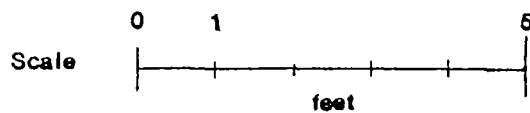
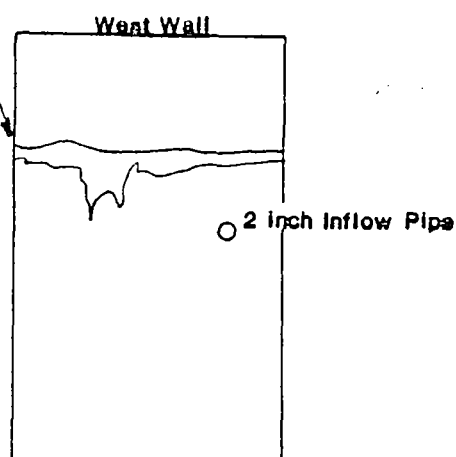
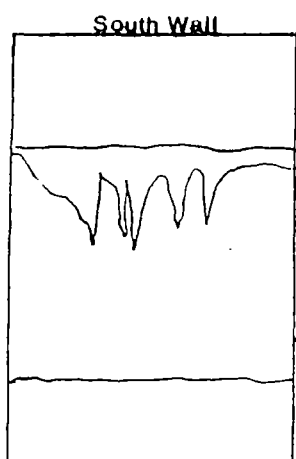


## PERTINENT CONSTRUCTION AND PROGRAM DATA

Tank No.	B-1-1111	
Plant No./Nearest Bldg.	B-1/Bldg. 149 (SE Side)	
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	500
	User/Process	Waste hydraulic oil swap
	Contents (past, CWS No., date)	Waste hydraulic oil swap
	(present, CWS No.)	Waste hydraulic oil swap
	Construction Materials	Concrete
	Geometry	Square
	Depth to Top	UNK
	Depth to Invert	8 ft
	Diameter	2.2 ft
	Length (L)	2.2 ft
	Containment	None
	Corrosive Protection (C)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Asphalt
	Appearance	Fair
	Surface Contamination	Spill plume around area
Drilling Program:	Htg Type/Requirements (R)	M.S. Auger, Inspection
	Borings (No.)	2
	Sample Depths	B1/3, 5, 7, 14, 20, 40 ft B2/7, 10, 23, 30, 40 ft
	Vapor wells/Lysimeters (No.)	1
	Sample Depths	MV1/REF. TO 51
	Completion Interval	MV1/5-11 ft
Laboratory Program (4)	No. of Tank Content Samples	0
	Parameters	
	No. of Tank Soil Samples	10
	Parameters	CAD, Vol. Org. Hydrocarbons



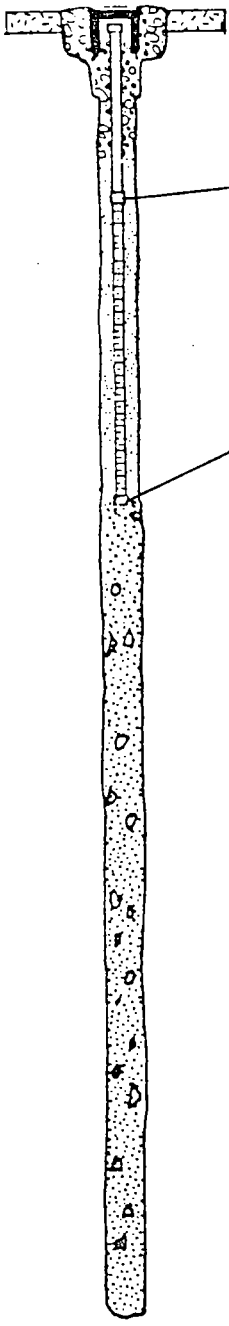
Concrete Form Joints  
Strictly Surficial, No Leakage Potential



GENERAL SUMP CONDITION: GOOD

LOCKHEED-CALIFORNIA COMPANY  
Sump B-1-AM  
Figure 3 Inspection Profiles

0838

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -			- Asphalt
	- 2 -			- Sand, medium to coarse grain, gray, w/gravel & cobbles, petroliferous odor
	- 4 -		Grab	
	- 6 -		43	At 2 ft, debris: twisted wire & wood fragments
	- 8 -			
	- 10 -		33	- Cobbly through 10 ft
	- 12 -			- Strong petroliferous odor
	- 14 -		45	
	- 16 -			
	- 18 -			
	- 20 -			
	- 22 -			
	- 24 -			- Color change, sand, fine to coarse grain, brown, loose, decreasing odor, cobbles to 4-in diameter
	- 26 -			Petroliferous odor increases at 25 ft
	- 28 -			
	- 30 -		50+	
	- 32 -			
	- 34 -			
	- 36 -			- Large cobbles
	- 38 -			
	- 40 -		38	

## COMPLETION &amp; BACKFILL

- Blank 2-in I.D. PVC pipe, 0-5 ft
- Screened 2-in I.D. PVC pipe, 5-11 ft
- Concrete, 0-3 ft
- Bentonite, 3-4 ft
- Clean sand, 4-15 ft
- Native material, caved 15-40 ft

TANK NO. B-1-AMBORING NO. B-1-AM-B1

GREGG &amp; ASSOCIATES, INC.

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -			Asphalt 0838
	- 2 -			Sand, medium to coarse grain, gray-brown, w/ gravel & cobbles
	- 4 -			strong odor at 4 ft
	- 6 -			Odor decreases
	- 8 -		30	
	- 10 -			
	- 12 -			
	- 14 -			Color change, sand, medium to coarse grain, brown, w/ gravel & cobbles, slight odor
	- 16 -		39	
	- 18 -			
	- 20 -			Grainsize change, very coarse, back to medium to coarse by 24 ft, variegated
	- 22 -		50+	continued gravel
	- 24 -			occasional cobbles
	- 26 -			
	- 28 -			
	- 30 -		50+	
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		50+	Sand, increase in fine grain

#### COMPLETION & BACKFILL

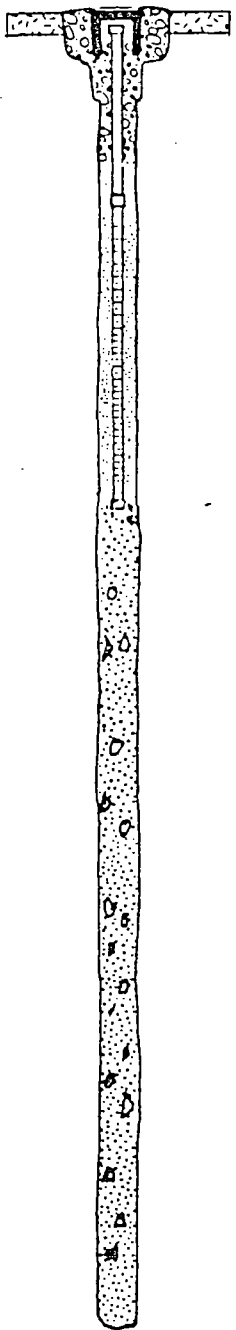
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand, 5-10 ft
- Native material, caved 10-40 ft

TANK NO. B-1-AM

BORING NO. B-1-AM-B2



0838

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -			Asphalt
	- 2 -			Sand, grey brown, some pebbles and cobbles, no odor
	- 4 -			
	- 6 -		12	Color change at 5, becomes brown Ring sample at 6
	- 8 -			
	- 10 -			
	- 12 -		20	Ring sample at 12
	- 14 -			
	- 16 -			Becomes browner at 15
	- 18 -			
	- 20 -			
	- 22 -		20	At 21, Sand, rich brown, medium fine, no odor Ring sample at 22
	- 24 -			
	- 26 -			At 26, Sand, variegated, coarse, some gravel, no odor
	- 28 -			
	- 30 -			
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -			Ring sample at 40 End of hole at 41

## COMPLETION &amp; BACKFILL

- Blank 2-in I.D.
- PVC pipe, 0-10 ft
- Screened 2-in I.D.
- PVC pipe, 10-20 ft
- Cement, 0-0.5 ft
- Sand, 0.5-7 ft
- Bentonite, 7-9 ft
- Clean sand, 9-20 ft
- Parent material, 20-41 ft

TANK NO. B-1-AWBORING NO. B-1-AW-MV1

TABLE B-1-AM: RESULTS OF CHEMICAL ANALYSES

0838

PARAMETER	BACK- GROUND SAMPLE	TTL C	B-1-AM B1 3 ft.	B-1-AM B1 5 ft.	B-1-AM B1 9 ft.	B-1-AM B1 14 ft.	B-1-AM B1 30 ft.	B-1-AM B1 40 ft.
Volatile Organics (ug/kg)		N.A.						
Benzene	<0.2		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Ethyl Benzene	<0.1		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Chloroform	<0.1		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Chloromethane	<0.2		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Chloroethane	<0.8		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
1,1-Dichloroethane	<0.1		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
1,2-Dichloroethane	<0.1		N.T.	N.T.	N.T.	*3.7	N.T.	N.T.
1,2-Dichloropropane	<0.1		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
1,1,1-Trichloroethane	<0.2		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
1,1,2-Trichloroethane	<0.1		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
1,1-Dichloroethene	<0.1		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
trans-1,2-Dichloroethene	<0.1		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Trichloroethene	<0.3	* 2,040	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Tetrachloroethene	<0.4		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Toluene	<0.4		*7.7	*3.6	*0.67	*0.70	*0.54	*0.68
Hexane	N.T.		N.T.	*2.0	N.T.	N.T.	N.T.	N.T.
Methyl Cyclohexane	N.T.		N.T.	*0.8	N.T.	N.T.	N.T.	N.T.
Methyl-3-Heptanone	N.T.		N.T.	N.T.	N.T.	*0.70	*0.78	*0.69
Petroleum Hydrocarbon (ug/kg)	<2.0	N.A.	490	19500	<4	<4	<4	<4
Oil & Grease (ug/kg)	N.T.	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
CAM Metals (ug/kg)			N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Antimony	<2.5	500						
Arsenic	13.4	500						
Barium	91.9	10,000						
Beryllium	<1.0	75						
Cadmium	<2.5	100						
Chromium (Total)	9.6	2,500						
Cobalt	6.5	8,000						
Copper	22.1	250						
Lead	<2.5	1,000						
Mercury	<0.1	20						
Molybdenum	6.3	3,500						
Nickel	8.4	2,000						
Selenium	<2.5	100						
Silver	<2.5	500						
Thallium	<2.5	700						
Vanadium	22.0	2,400						
Zinc	38.7	2,500						
Others			N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
pH (standard units)	8.24	N.A.						
Sodium (ug/kg)	N.T.	N.A.						
Cyanide (ug/kg)	<0.2	N.A.						
Sulfate (ug/kg)	N.T.	N.A.						

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

\* ug/kg

TABLE B-1-AM (CONTINUED): RESULTS OF CHEMICAL ANALYSES

0838

PARAMETER	BACK- GROUND SAMPLE	TTL C	B-1-AM B2 16.5 ft.	B-1-AM B2 23.5 ft.	B-1-AM B2 30.5 ft.	B-1-AM B2 (DUP.) 30.5 ft.	B-1-AM B2 40.5 ft.	B-1-AM B2 COMPOSITE
Volatile Organics (ug/kg)		N.A.						N.T.
Benzene	<0.2		11.8	N.D.	57.9	55.0	63.5	
Ethyl Benzene	<0.1		N.D.	N.D.	43.3	35.2	47.4	
Chloroform	<0.1		209	3.2	46.1	56.2	55.4	
Chloroethane	<0.2		N.D.	N.D.	N.D.	N.D.	N.D.	
Chloroethane	<0.8		N.D.	N.D.	N.D.	N.D.	N.D.	
1,1-Dichloroethane	<0.1		N.D.	N.D.	N.D.	N.D.	N.D.	
1,2-Dichloroethane	<0.1		82.1	N.D.	42.2	35.3	49.3	
1,2-Dichloropropane	<0.1		N.D.	N.D.	N.D.	N.D.	N.D.	
1,1,1-Trichloroethane	<0.2		1140	6.4	1050	821	1150	
1,1,2-Trichloroethane	<0.1		N.D.	N.D.	N.D.	N.D.	N.D.	
1,1-Dichloroethene	<0.1		N.D.	N.D.	N.D.	N.D.	N.D.	
trans-1,2-Dichloroethene	<0.1		N.D.	N.D.	N.D.	N.D.	N.D.	
Trichloroethene	<0.3	* 2,040	769	0.5	639	521	633	
Tetrachloroethene	<0.4		N.D.	N.D.	N.D.	N.D.	N.D.	
Toluene	<0.4		N.D.	N.D.	44.3	36.1	48.6	
Hexane	N.T.		N.T.	N.T.	N.T.	N.T.	N.T.	
Methyl Cyclohexane	N.T.		N.T.	N.T.	N.T.	N.T.	N.T.	
Methyl-3-Heptanone	N.T.		N.T.	N.T.	N.T.	N.T.	N.T.	
Petroleum Hydrocarbon (mg/kg)	<2.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Oil & Grease (mg/kg)	N.T.	N.A.	<2	7	<2	N.T.	<2	N.T.
ECM Metals (mg/kg)			N.T.	N.T.	N.T.	N.T.	N.T.	
Antimony	<2.5	500						<2.5
Arsenic	13.4	500						23.7
Barium	91.9	10,000						94.5
Beryllium	<1.0	75						1.0
Cadmium	<2.5	100						<0.5
Chromium (Total)	9.6	2,500						12.1
Cobalt	6.5	8,000						9.4
Copper	22.1	250						15.2
Lead	<2.5	1,000						<2.5
Mercury	<0.1	20						<0.1
Molybdenum	6.3	3,500						<1.0
Nickel	8.4	2,000						10.3
Selenium	<2.5	100						<2.5
Silver	<2.5	500						<2.5
Thallium	<2.5	700						<2.5
Vanadium	22.0	2,400						30.7
Zinc	38.7	2,500						36.2
Others			N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
pH (standard units)	8.24	N.A.						
Sodium (mg/kg)	N.T.	N.A.						
Cyanide (mg/kg)	<0.2	N.A.						
Sulfate (mg/kg)	N.T.	N.A.						

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

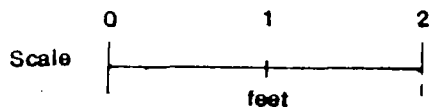
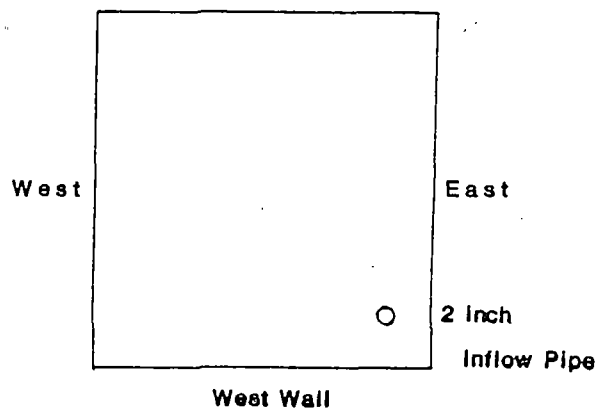
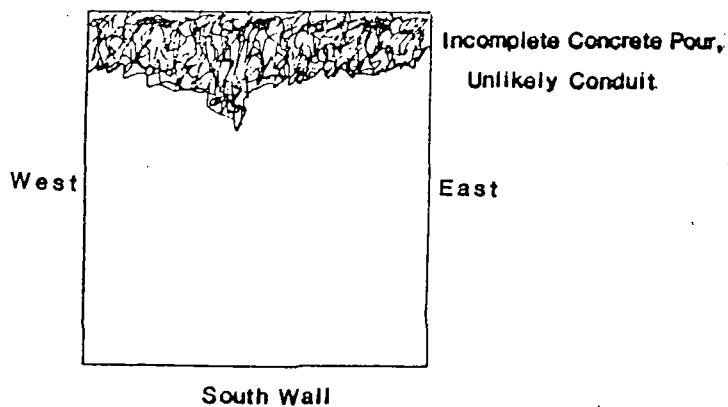
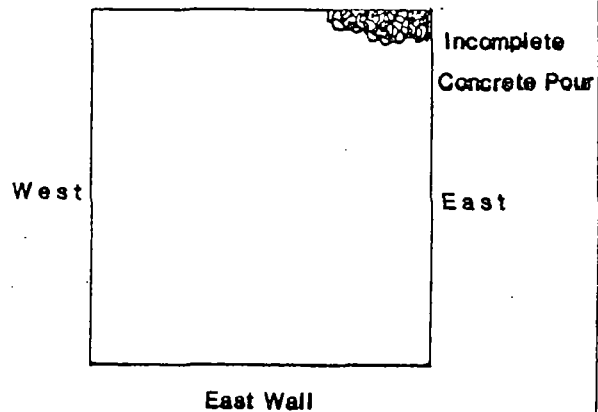
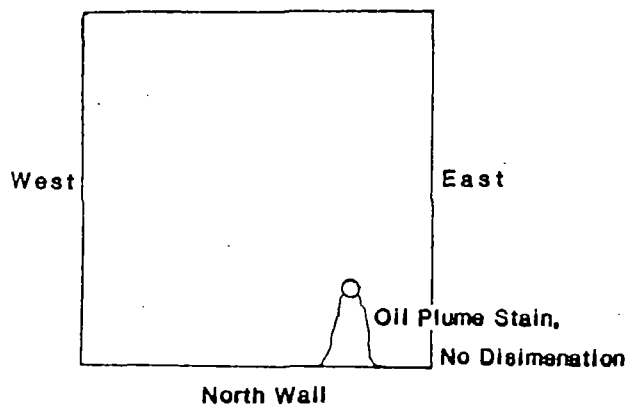
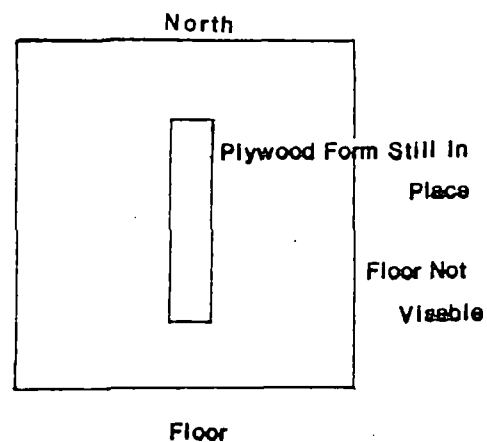
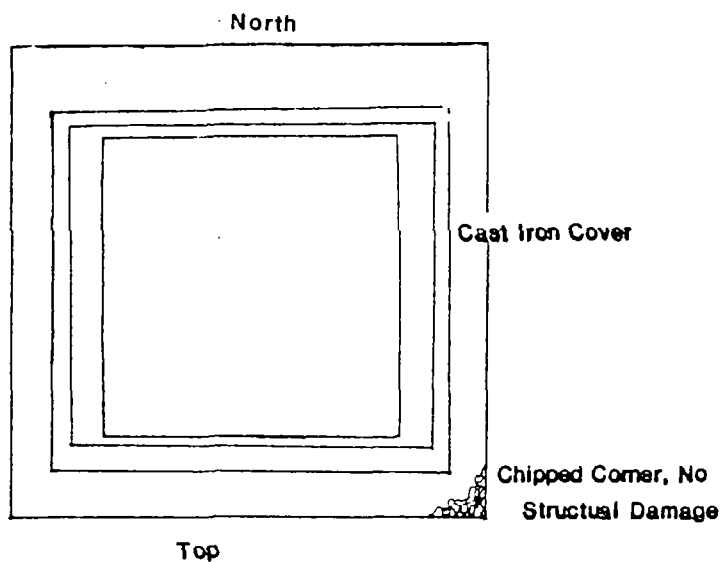
\* mg/kg

PARAMETER	DETECTION LIMIT	TITLE	B-1-AW-MV1 5 & 12 ft COMPOSITE	B-1-AW-MV1 22 & 40 ft COMPOSITE	B-1-AW-MV1 5, 12, 22, & 40 ft COMPOSITE
Halogenated Volatile Organics (ug/kg)					
EPA Method 8010					
Bromodichloromethane	0.04	N.A.	N.T.	N.T.	N.D.
Bromotetra	0.09	N.A.	N.T.	N.T.	N.D.
Bromomethane	0.06	N.A.	N.T.	N.T.	N.D.
Carbon tetrachloride	0.08	N.A.	N.T.	N.T.	N.D.
Chlorobenzene	0.16	N.A.	N.T.	N.T.	N.D.
Chloroethane	0.10	N.A.	N.T.	N.T.	N.D.
Chloroform	0.05	N.A.	N.T.	N.T.	N.D.
1-Chloroethyl vinyl ether	0.03	N.A.	N.T.	N.T.	N.D.
Chloromethane	0.02	N.A.	N.T.	N.T.	N.D.
Dichloromethane (Methylene Chloride)	0.07	N.A.	N.T.	N.T.	N.D.
Dibromochloromethane	0.07	N.A.	N.T.	N.T.	N.D.
1,2-Dichlorobenzene	0.40	N.A.	N.T.	N.T.	N.D.
1,3-Dichlorobenzene	0.40	N.A.	N.T.	N.T.	N.D.
1,4-Dichlorobenzene	0.50	N.A.	N.T.	N.T.	N.D.
1,1-Dichloroethane	0.05	N.A.	N.T.	N.T.	N.D.
1,2-Dichloroethane	0.07	N.A.	N.T.	N.T.	N.D.
1,1-Dichloroethene	0.07	N.A.	N.T.	N.T.	N.D.
trans-1,2-Dichloroethene	0.09	N.A.	N.T.	N.T.	N.D.
1,2-Dichloropropene	0.03	N.A.	N.T.	N.T.	N.D.
trans-1,3-Dichloropropene	0.11	N.A.	N.T.	N.T.	N.D.
1,1,2,2-Tetrachloroethane	0.03	N.A.	N.T.	N.T.	N.D.
Tetrachloroethene	0.03	N.A.	N.T.	N.T.	N.D.
1,1,1-Trichloroethane	0.03	N.A.	N.T.	N.T.	N.D.
1,1,2-Trichloroethane	0.03	N.A.	N.T.	N.T.	N.D.
Trichloroethene	0.06	2,400*	N.T.	N.T.	N.D.
Vinyl Chloride	0.05	N.A.	N.T.	N.T.	N.D.
Aromatic Volatile Organics (ug/kg)					
EPA Method 8010					
Benzene	0.20	N.A.	N.T.	N.T.	N.D.
Chlorobenzene	0.16	N.A.	N.T.	N.T.	N.D.
Ethyl benzene	0.10	N.A.	N.T.	N.T.	N.D.
Toluene	0.40	N.A.	N.T.	N.T.	N.D.
Acetone (ug/kg)					
Methyl Ethyl Ketone (ug/kg)					
Oil & Grease (ug/kg) EPA Method 413.2					
Metals (ug/kg)					
Chromium (total)	9.6**	2500	10.3	14.3	N.T.
Lead (total)	2.5**	1000	N.T.	N.T.	N.T.
Copper (total)	32.1**	250	5.5	15.6	N.T.
Zinc (total)	35.7**	2500	36.6	52.8	N.T.

\* milligrams per kilogram (ug/kg)

\*\* Average Values Obtained From Background Concentrations

N.A. - Not Available; N.D. - Not Detected; N.T. - Not Tested



General Sump Condition: Good

LOCKHEED-CALIFORNIA COMPANY  
Sump B1-AW  
Figure 1 Inspection Profiles

FIELD PROGRAM

One boring, which was converted to a suction lysimeter, was drilled/installed to assess conditions surrounding Clarifier B-1-AN.

BORING B-1-AN-B1/SUCTION LYSIMETER B-1-AN-SL1

Monitoring Installations - Boring B-1-AN-B1/Suction Lysimeter B-1-AN-SL1 was drilled/installed to monitor the clarifier as indicated in the approved Work Plan. the location of the boring/suction lysimeter is indicated on the site map.

Sampling Intervals - Soil samples from the boring/suction lysimeter were to have been collected at depths of 5, 12, 17, 25 and 40 feet according to the Work Plan. However, to expedite sampling procedures, samples were extracted from depths of 5, 10, 15, 25 and 40 feet. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampled intervals will significantly alter the chemical profile of the soil.

Field Observations - The brown color and coarse grain size of the sand remained consistent throughout the first 25 feet of the boring. At 25 feet, the sand became a reddish color and finer grained. There was sufficient fine grained material present to make the soil slightly cohesive.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. There were no indications of contamination other than the reddish color at 25 feet.

LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample of the contents of Clarifier B-1-AN was collected and treated with nitric acid to maintain metals in soluble form for subsequent CAM metals analysis. A second liquid sample was collected and analyzed for volatile organic compounds and pH. Individual soil samples collected from Boring B-1-AN-B1 were composited and analyzed for volatile organics, CAM metals, pH, and cyanide. These analyses have been approved in the Work Plan.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AN. The concentrations of CAM metals in the treated liquid sample were found to be below the limits of detection or below the background levels. Volatile organic compounds were not detected in the untreated liquid sample and a neutral pH (7.25) was reported. The pH of the composite soil

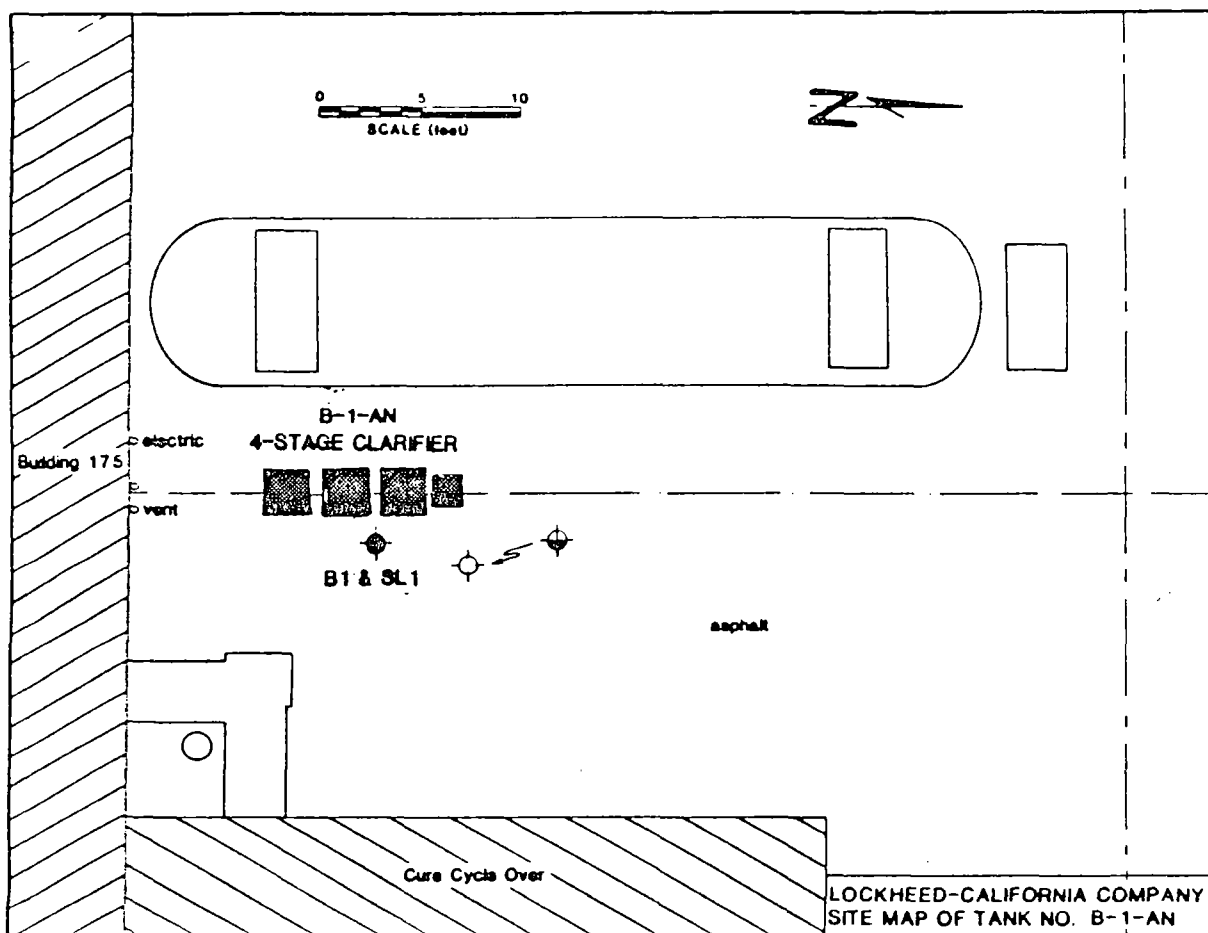
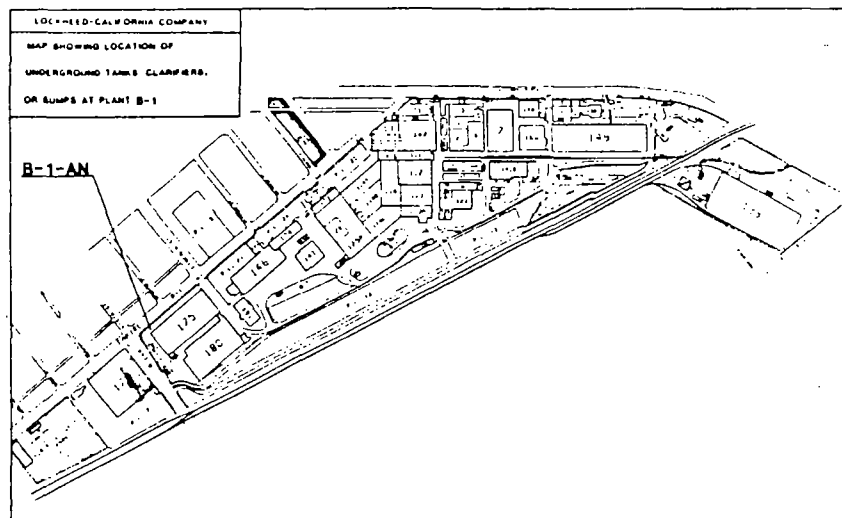
sample was found to be near the level reported for the background samples. The concentrations of volatile organic compounds and cyanide were found to be below the limits of detection. Concentrations of beryllium, mercury, and molybdenum in the composited soil sample were found to be slightly above background levels (8.1, 0.4, and 16.7, respectively).

#### CONCLUSIONS

Based on field observations (no odor noted) and laboratory results, it is concluded that it is unlikely that Clarifier B-1-AN is leaking. The three metals reported to be above background concentrations in the soil sample (beryllium, mercury, and molybdenum) were at levels far below TTLC.

#### RECOMMENDATION

Proceed with quarterly monitoring of the suction lysimeter.

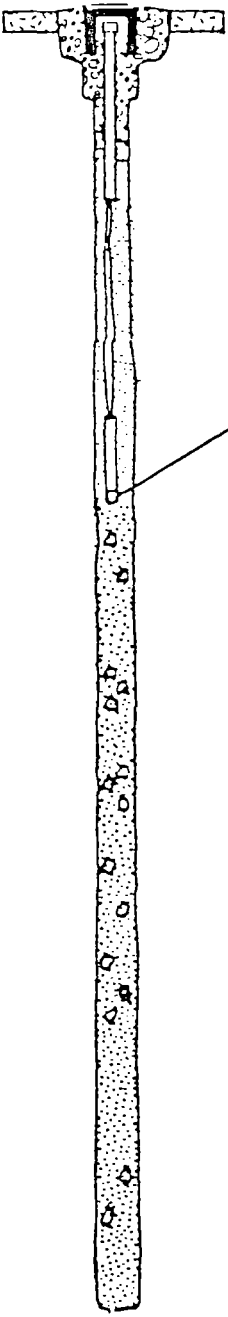




## PERTINENT CONSTRUCTION AND PROGRAM DATA

Tank No.	B-1-AN	
Plant No./Nearest Bldg.	B-1/Bldg. 175 (N Side)	
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	UNK
	Use/Process	Clarifier (4-stage)
	Contents (past, CAS No., date)	UNK
	(present, CAS No.)	UNK
	Construction Materials	Concrete
	Geometry	Rectangular
	Depth To Top	UNK
	Depth To Invert	UNK
	Diameter	2.2 ft
	Length (1)	9.9 ft
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Asphalt
	Appearance	UNK
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	H.S. Auger
	Borings (No.)	1
	Sample Depths	B1/5, 10, 15, 25, 40 ft
	Vapor Wells/Lysimeters (No.)	1
	Sample Depths	SL1/REF, TO B1
	Completion Interval	SL1/9 ft
Laboratory Program (4)	No. of Tank Content Samples	3
	Parameters	CAN, pH Vol. Org.
	No. of Tank Soil Samples	1 (Comp.)
	Parameters	CAN, Cn, pH Vol. Org.

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CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -	Asphalt		
	- 2 -	Sand, coarse grain, brown, very loose, w/cobbles & gravel		
	- 4 -		8	
	- 6 -			
	- 8 -			
	- 10 -		45	
	- 12 -			
	- 14 -		49	
	- 16 -			
	- 18 -			
	- 20 -			
	- 22 -			
	- 24 -			
	- 26 -		41	Silt, sandy, silt to coarse grain, red-brown, very moist, cohesive
	- 28 -			
	- 30 -			
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		50+	

## COMPLETION &amp; BACKFILL

- Suction Lysimeter at 9 ft
- Blank 2-in I.D. PVC pipe, 0-5 ft
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand & native mix, 6-10 ft
- Native material, caved 10-40 ft

TANK NO. B-1-ANBORING NO. B-1-AN-B1

GREGG &amp; ASSOCIATES, INC.

TABLE B-1-AN: RESULTS OF CHEMICAL ANALYSES

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PARAMETER	BACK- GROUND SAMPLE	TTLIC	B-1-AN LIQUID TREATED	B-1-AN LIQUID UNTREATED	B-1-AN BI COMPOSITE
Volatile Organics (ug/kg)		N.A.	N.T.	N.D.	N.D.
Benzene	<0.2				
Ethyl Benzene	<0.1				
Chloroform	<0.1				
Chloromethane	<0.2				
Chloroethane	<0.8				
1,1-Dichloroethane	<0.1				
1,2-Dichloroethane	<0.1				
1,2-Dichloropropane	<0.1				
1,1,1-Trichloroethane	<0.2				
1,1,2-Trichloroethane	<0.1				
Bromodichloromethane	<0.1				
Dibromochloromethane	<0.1				
1,1-Dichloroethene	<0.1				
trans-1,2-Dichloroethene	<0.1				
-Trichloroethene	<0.3	* 2,040			
Tetrachloroethene	<0.4				
Toluene	<0.4				
Methyl Ethyl ketone	<0.5				
Petroleum Hydrocarbon (mg/kg)	<2.0	N.A.	N.T.	N.T.	N.T.
Oil & Grease (mg/kg)	N.T.	N.A.	N.T.	N.T.	N.T.
CAM Metals (mg/kg)			N.T.		
Antimony	<2.5	500	<0.005		<2.5
Arsenic	13.4	500	<0.005		10.8
Barium	91.9	10,000	<0.01		62.8
Beryllium	<1.0	75	<0.02		8.1
Cadmium	<2.5	100	<0.001		<0.5
Chromium (Total)	9.6	2,500	<0.01		7.9
Cobalt	6.5	8,000	<0.02		8.1
Copper	22.1	250	<0.02		10.2
Lead	<2.5	1,000	0.009		<2.5
Mercury	<0.1	20	<0.0005		0.4
Molybdenum	6.3	3,500	<0.02		16.7
Nickel	6.4	2,000	<0.01		7.1
Selenium	<2.5	100	<0.005		<2.5
Silver	<2.5	500	<0.05		<2.5
Thallium	<2.5	700	<0.005		<2.5
Vanadium	22.0	2,400	<0.01		26.0
Zinc	38.7	2,500	0.16		25.9
Others			N.T.		
pH (standard units)	8.24	N.A.		7.25	8.18
Sodium (mg/kg)	N.T.	N.A.		N.T.	N.T.
Cyanide (mg/kg)	<0.2	N.A.		N.T.	<0.2
Sulfate (mg/kg)	N.T.	N.A.		N.T.	N.T.

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

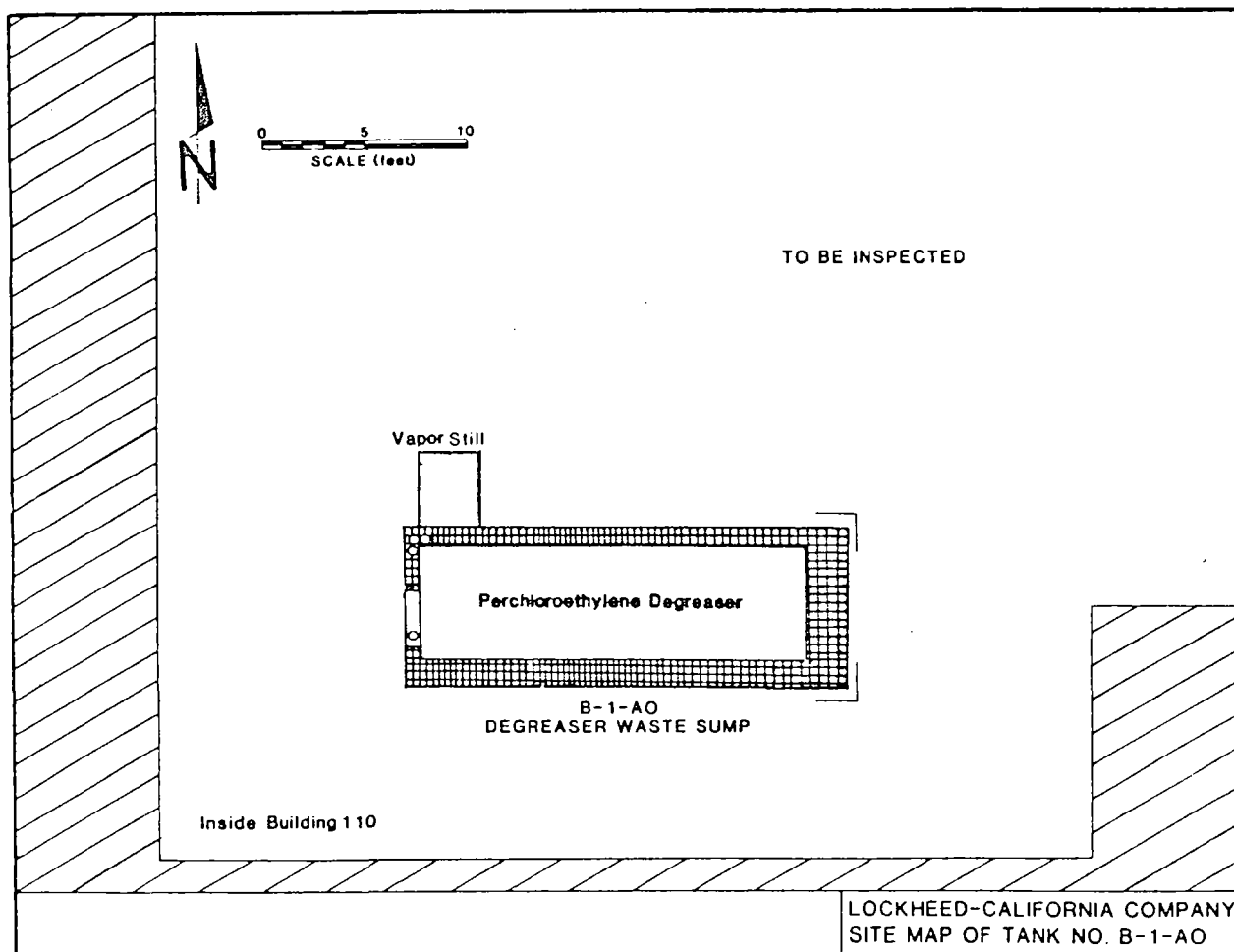
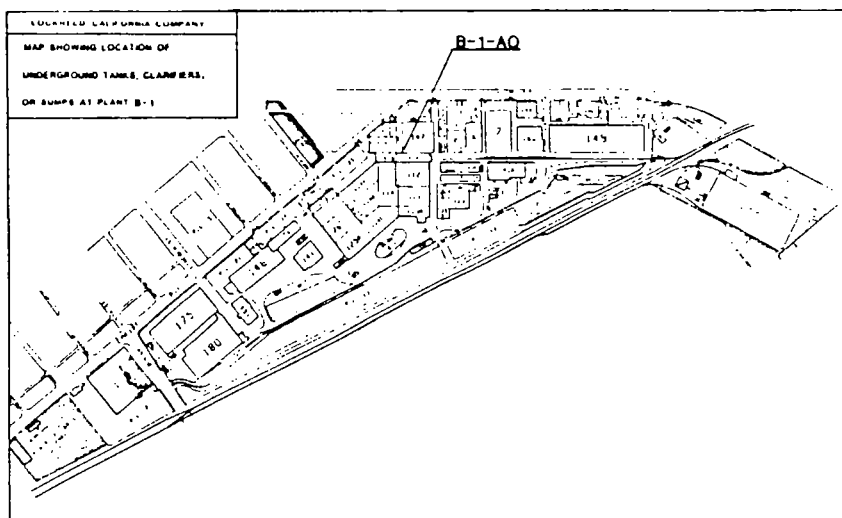
N.T. - NOT TESTED

TTLIC - TOTAL THRESHOLD LIMIT CONCENTRATION

\* mg/kg

## TANK B-1-AO

As proposed in the Work Plan, the integrity of Sump B-1-AO was to have been determined by visual inspection. However, further discussion with CALAC personnel and Mr. Al Novak of the RWQCB resulted in the decision that a soil boring, soil analysis, and installation of a vapor monitoring well would provide more thorough information. Therefore, the sump will be investigated using one, 20-foot soil boring which will be converted to a 10-foot vapor monitoring well. Soil samples will be taken from the boring at 10 and 20 feet. The results of the field investigation and laboratory analysis of the samples will be added to this report when completed and available.



Tank No.	B-1-AO	
Plant No./Nearest Bldg.	B-1/Bldg. 110 (Inside)	
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	UNK
	Use/Process	Degreaser waste sump
	Contents (past, CAS No., date)	Perchloroethylene 127154
	(present, CAS No.)	Perchloroethylene 127154
	Construction Materials	Concrete
	Geometry	Rectangular
	Depth To Top	
	Depth To Invert	UNK
	Diameter	UNK
	Length (1)	UNK
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Concrete
	Appearance	UNK
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	Inspection
	Borings (No.)	0
	Sample Depths	
	Vapor Wells/Lysimeters (No.)	0
	Sample Depths	
	Completion Interval	
Laboratory Program (4)	No. of Tank Content Samples	0
	Parameters	
	No. of Tank Soil Samples	0
	Parameters	

FIELD PROGRAM

One boring, which was converted to a suction lysimeter, was drilled/installed to assess conditions surrounding Clarifier B-1-AP.

BORING B-1-AP-B1/SUCTION LYSIMETER B-1-AP-SL1

Monitoring Installations - Boring B-1-AP-B1/Suction Lysimeter B-1-AP-SL1 was drilled slightly south of the approved location due to interference from an underground pipe. Two attempts were made to drill the boring/suction lysimeter to the planned depth. A steel pipe 2 feet below ground surface prevented successful completion of the first attempt. The second attempt reached a successful depth of 40 feet. Both the actual and approved locations of the boring/suction lysimeter are indicated on the site map.

Sampling Intervals - Soil samples from the boring/suction lysimeter were to have been collected at depths of 5, 12, 17, 25 and 40 feet according to the Work Plan. However, in order to expedite the procedure, samples were extracted from depths of 5, 10, 15, 25 and 40 feet. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampled intervals will significantly alter the chemical profile of the soil.

Field Observations - The fine to coarse grain size of the sand remained consistent throughout the first 15 feet of the boring. At 15 feet, the sand became coarser and lighter in color.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. There were no indications of contamination.

LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample was collected from Clarifier B-1-AP and treated with nitric acid to maintain metals in soluble form for subsequent CAM metals analysis. A second liquid sample was collected and analyzed for volatile organic compounds and pH. Individual depth soil samples were collected from Boring B-1-AP-B1 and composited for analysis of volatile organics, CAM metals, cyanide, and pH. These analyses have been approved in the work plan.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AP. A concentration of 5.5 mg/kg of lead was found in the treated liquid samples. All other metals were found to be at concentrations below the limits of detection

or near the levels reported for the background samples. The concentrations of volatile organic compounds were reported to be below the limits of detection in the untreated liquid sample. The concentrations of Volatile organics, CAM metals (except molybdenum), and cyanide in the composite soil sample from Boring B-1-AP were found to be below the limits of detection or near the levels reported for the background samples. A moderate level of molybdenum (13.5 mg/kg) was reported for the B-1-AP-B1 composite sample.

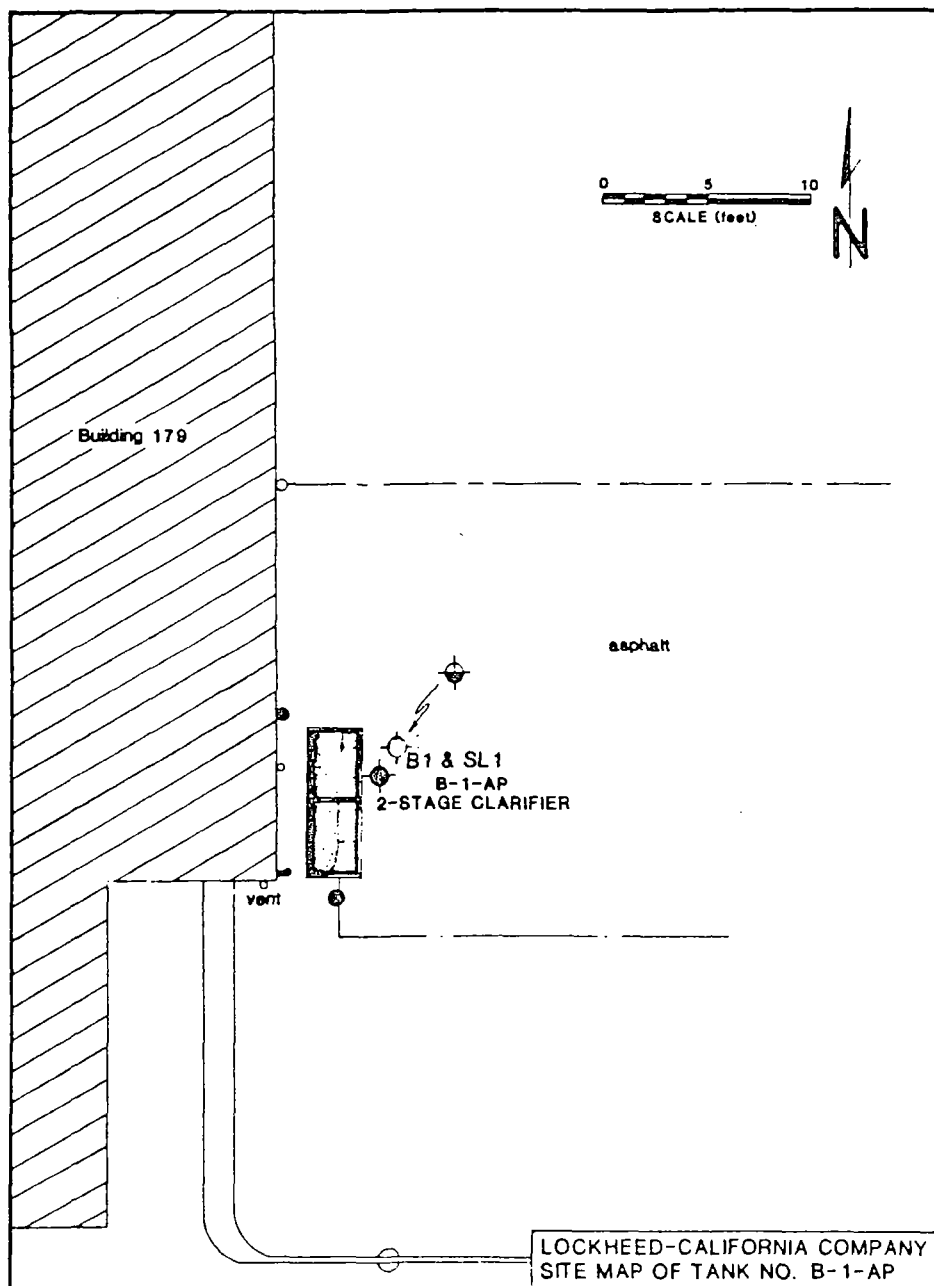
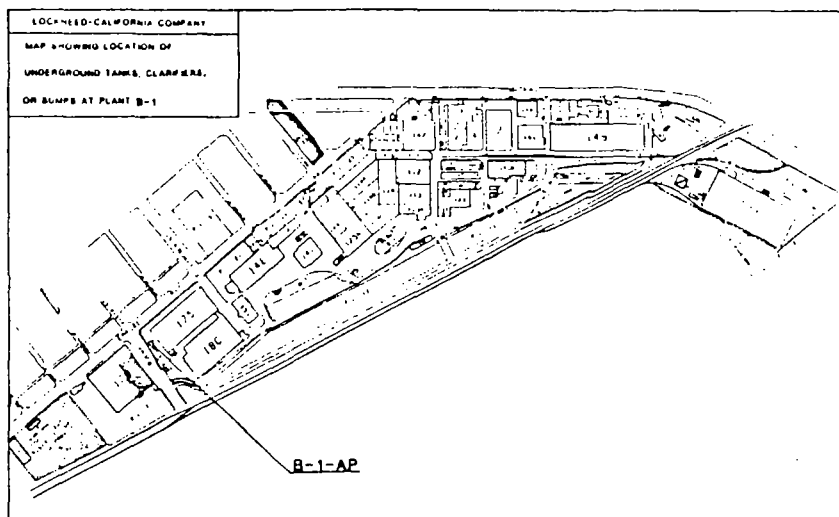
#### CONCLUSIONS

Based on the field observations and laboratory analysis results, it is concluded that Clarifier B-1-AP is not leaking. The moderate level of molybdenum reported for the B-1 composite sample is probably a natural level for the soil (the 30 foot background sample contained 12.4 mg/kg of molybdenum).

#### RECOMMENDATION

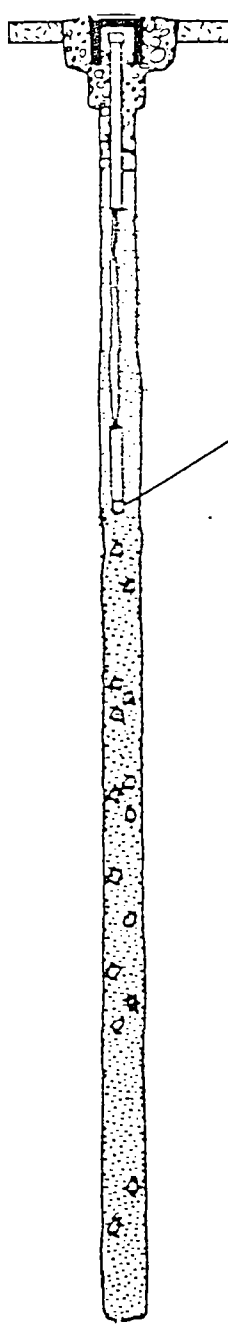
Proceed with quarterly sampling of the suction lysimeter.





## PERTINENT CONSTRUCTION AND PROGRAM DATA

Tank No.	B-1-AP	
Plant No./Nearest Bldg.	B-1/Bldg. 179 (E Side)	
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	UNK
	Use/Process	Clarifier (2-stage)
	Contents (past, CAS No., date)	UNK
	(present, CAS No.)	UNK
	Construction Materials	Concrete
	Geometry	Rectangular
	Depth To Top	UNK
	Depth To Invert	UNK
	Diameter	2.2 ft
	Length (1)	6.8 ft
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Sites:	Paving Material/Thickness	Asphalt
	Appearance	UNK
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	H.S. Auger
	Borings (No.)	1
	Sample Depths	B1/5, 10, 15, 30, 40 ft
	Vapor Wells/Lysimeters (No.)	1
	Sample Depths	SL1/REF. TO B1
	Completion Interval	SL1/9 ft
Laboratory Program (4)	No. of Tank Content Samples	3
	Parameters	CAR, pH Vol. Org.
	No. of Tank Soil Samples	1 (Comp.)
	Parameters	CAR, Co, pH Vol. Org.

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -	(---)(---)(---)		- Asphalt
	- 2 -			- Sand, fine to coarse grain, brown, moist, slightly cohesive, occasional cobbles
	- 4 -	0	66	
	- 6 -	0		
	- 8 -	0		
	- 10 -	0	15	
	- 12 -	0		
	- 14 -	0		
	- 16 -	0	50 +	- Color & grainsize change lighter, more variegated & coarse
	- 18 -	0		
	- 20 -	0		
	- 22 -	0		
	- 24 -	0		
	- 26 -	0		
	- 28 -	0		
	- 30 -	0	30	
	- 32 -	0		
	- 34 -	0		
	- 36 -	0		
	- 38 -	0		
	- 40 -	0	50 +	

## COMPLETION &amp; BACKFILL

- Suction Lysimeter at 9 ft
- Blank 2-in I.D. PVC pipe, 0-5 ft
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand, 5-6 ft
- Clean sand & native mix, 6-10 ft
- Native material, caved 10-40 ft

TANK NO. B-1-APBORING NO. B-1-AP-B1

GREGG &amp; ASSOCIATES, INC.

TABLE B-1-AP: RESULTS OF CHEMICAL ANALYSES

PARAMETER	BACK- GROUND SAMPLE	TTL C	B-1-AP LIQUID TREATED	B-1-AP LIQUID UNTREATED	B-1-AP BI COMPOSITE
Volatile Organics (ug/kg)		N.A.	N.T.	N.D.	N.D.
Benzene	<0.2				
Ethyl Benzene	<0.1				
Chloroform	<0.1				
Chloroethane	<0.2				
Chloroethane	<0.8				
1,1-Dichloroethane	<0.1				
1,2-Dichloroethane	<0.1				
1,2-Dichloropropane	<0.1				
1,1,1-Trichloroethane	<0.2				
1,1,2-Trichloroethane	<0.1				
Bromodichloroethane	<0.1				
Dibromochloroethane	<0.1				
1,1-Dichloroethene	<0.1				
trans-1,2-Dichloroethene	<0.1				
Trichloroethene	<0.3	* 2,040			
Tetrachloroethene	<0.4				
Toluene	<0.4				
Methyl Ethyl Ketone	<0.5				
Petroleum Hydrocarbon (ug/kg)	<2.0	N.A.	N.T.	N.T.	N.T.
Oil & Grease (ug/kg)	N.T.	N.A.	N.T.	N.T.	N.T.
CAM Metals (ug/kg)				N.T.	
Antimony	<2.5	500	<0.005		<2.5
Arsenic	13.4	500	<0.005		9.5
Barium	91.9	10,000	<0.01		68.1
Beryllium	<1.0	75	<0.02		1.2
Cadmium	<2.5	100	<0.001		<0.05
Chromium (Total)	9.6	2,500	<0.01		9.6
Cobalt	6.5	8,000	<0.02		6.9
Copper	22.1	250	0.03		10.8
Lead	<2.5	1,000	5.5		<2.5
Mercury	<0.1	20	<0.0005		<0.1
Molybdenum	6.3	3,500	<0.02		13.5
Nickel	8.4	2,000	<0.01		7.4
Selenium	<2.5	100	<0.005		<2.5
Silver	<2.5	500	<0.05		<2.5
Thallium	<2.5	700	<0.005		<2.5
Vanadium	22.0	2,400	<0.01		24.5
Zinc	38.7	2,500	2.34		27.3
Others			N.T.		
pH (standard units)	8.24	N.A.		7.45	8.87
Sodium (ug/kg)	N.T.	N.A.		N.T.	N.T.
Cyanide (ug/kg)	<0.2	N.A.		N.T.	<0.2
Sulfate (ug/kg)	N.T.	N.A.		N.T.	N.T.

N.A. - NOT AVAILABLE

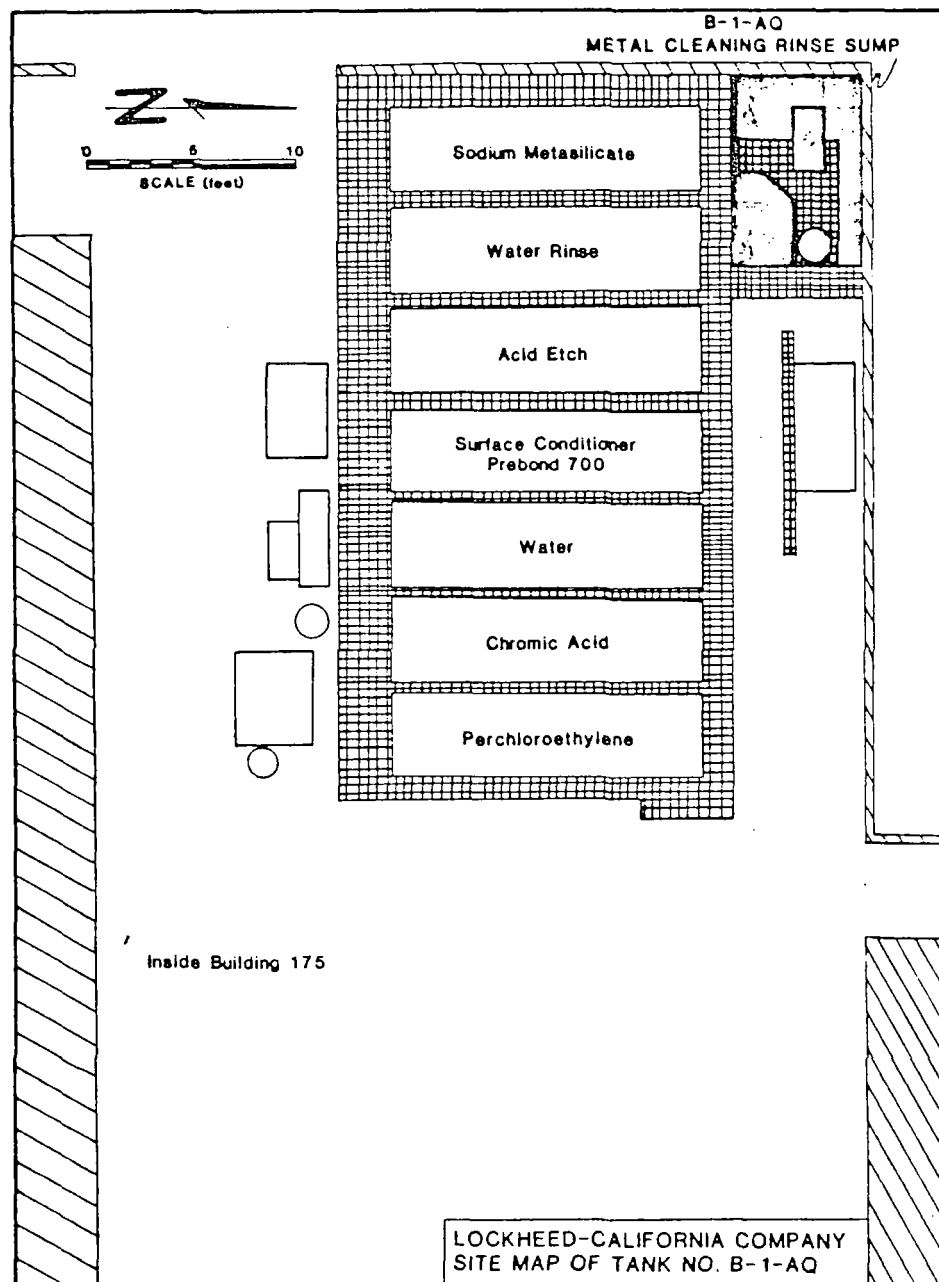
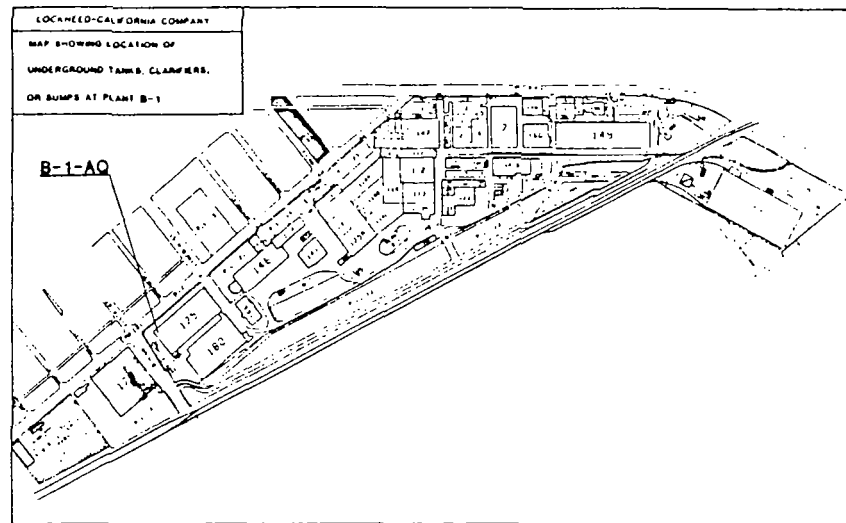
N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THRESHOLD LIMIT CONCENTRATION

## TANK B-1-AQ

As proposed in the Work Plan, the integrity of Sump B-1-AQ was to have been determined by visual inspection. However, further discussion with CALAC personnel and Mr. Al Novak of the RWQCB resulted in the decision that a soil boring, soil analysis, and installation of a vapor monitoring well would provide more thorough information. Therefore, the sump will be investigated using one, 20-foot soil boring which will be converted to a 10-foot vapor monitoring well. Soil samples will be taken from the boring at 10 and 20 feet. The results of the field investigation and laboratory analysis of the samples will be added to this report when completed and available.

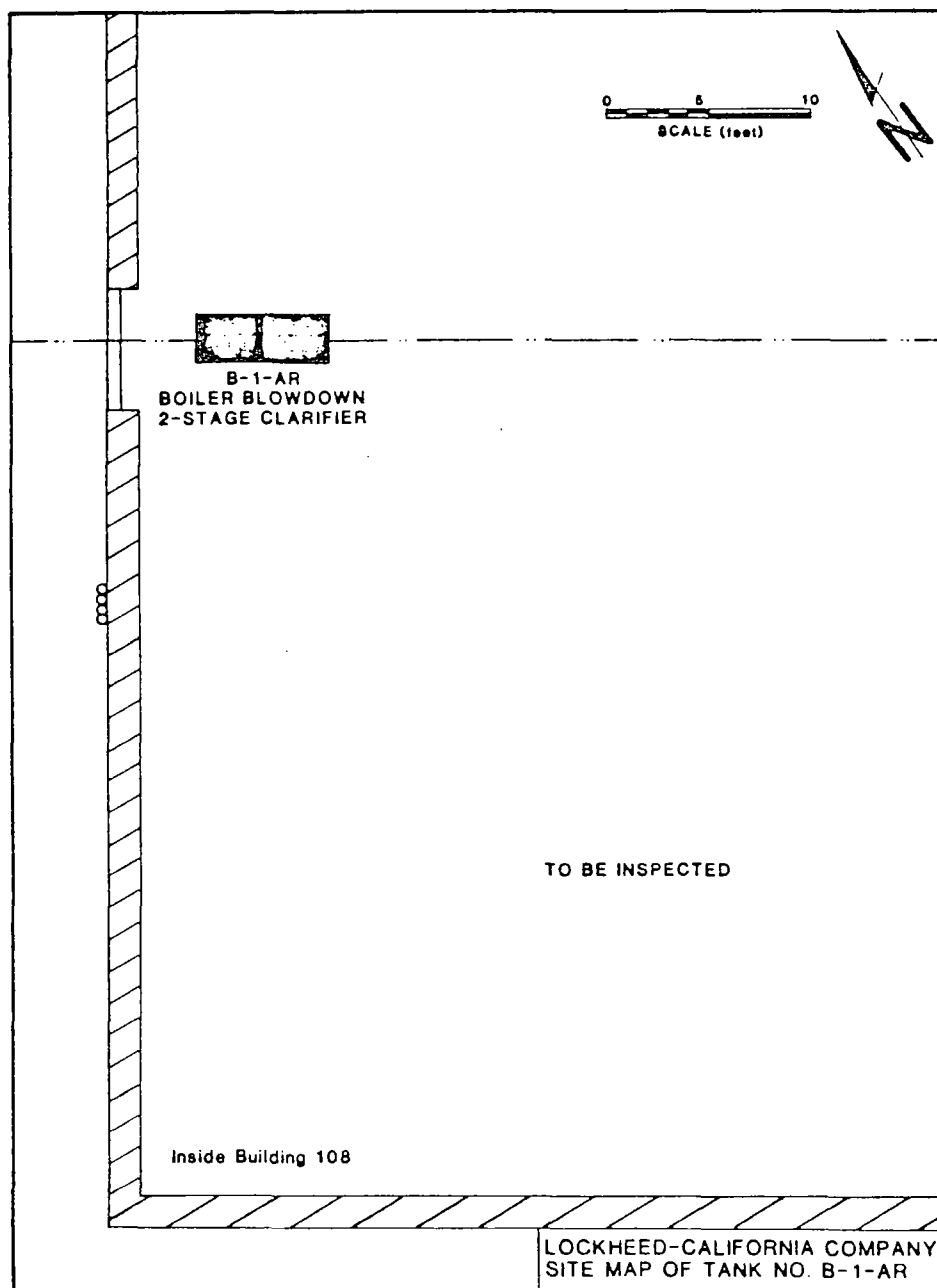
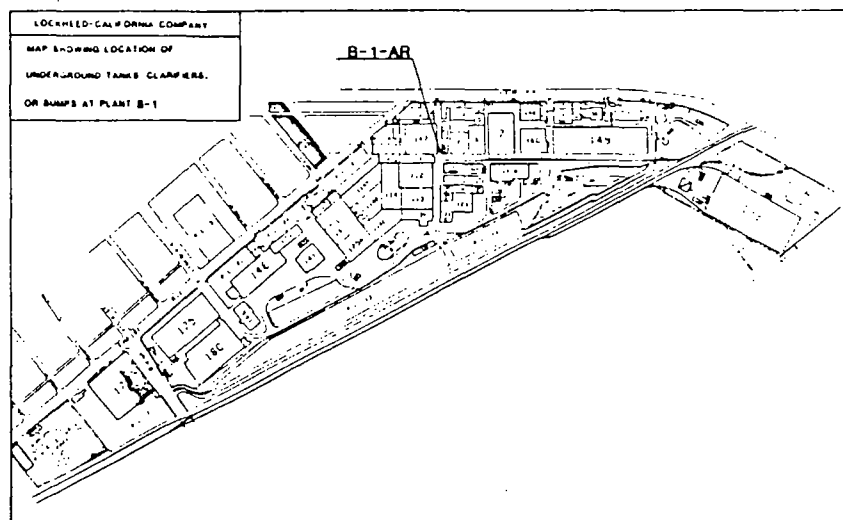


Tank No.	B-1-AQ	
Plant No./Nearest Bldg.	B-1/Bldg. 175 (Inside)	
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	UNK
	Use/Process	Metal cleaning rinse sump
	Contents (past, CAS No., date)	UNK
	(present, CAS No.)	Metal cleaning rinse water
	Construction Materials	Concrete
	Geometry	Square
	Depth To Top	UNK
	Depth To Invert	UNK
	Diameter	UNK
	Length (1)	UNK
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Concrete
	Appearance	UNK
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	Portable H.S. Muger
	Borings (No.)	1
	Sample Depths	B1/10, 20 ft
	Vapor Wells/Lysimeters (No.)	0
	Sample Depths	
	Completion Interval	
Laboratory Program (4)	No. of Tank Content Samples	0
	Parameters	
	No. of Tank Soil Samples	1 (Comp.)
	Parameters	CAN, pH

## TANK B-1-AR

As proposed in the Work Plan, the integrity of Clarifier B-1-AR was to have been determined by visual inspection. However, further discussion with CALAC personnel and Mr. Al Novak of the RWQCB resulted in the decision that installation of a suction lysimeter would provide more thorough information. Therefore, the clarifier will be investigated using one, 20-foot soil boring which will be converted to a 10-foot suction lysimeter. Soil samples will be taken from the boring at 8 and 20 feet. The results of the field investigation and laboratory analysis of the samples will be added to this report when completed and available.





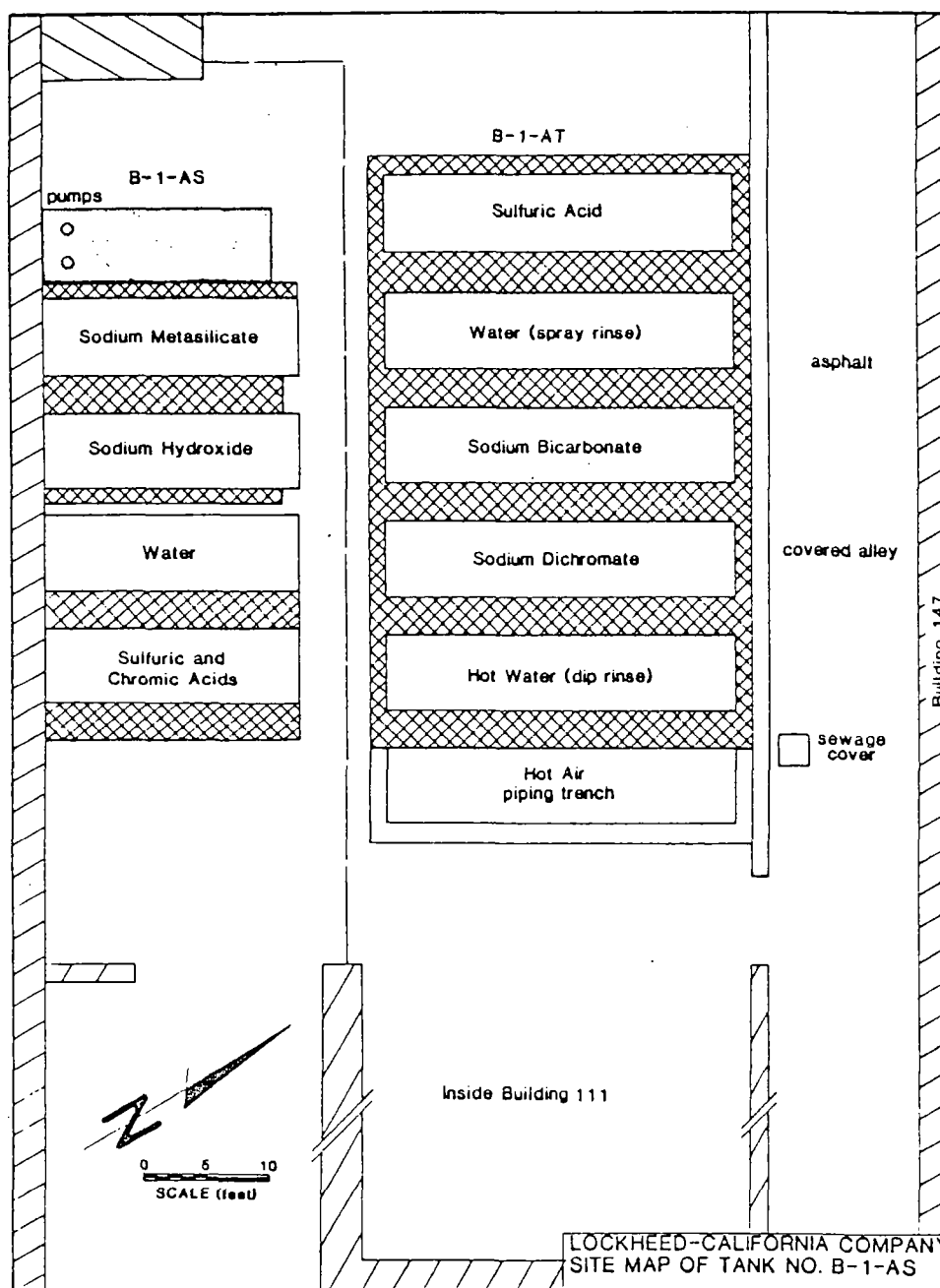
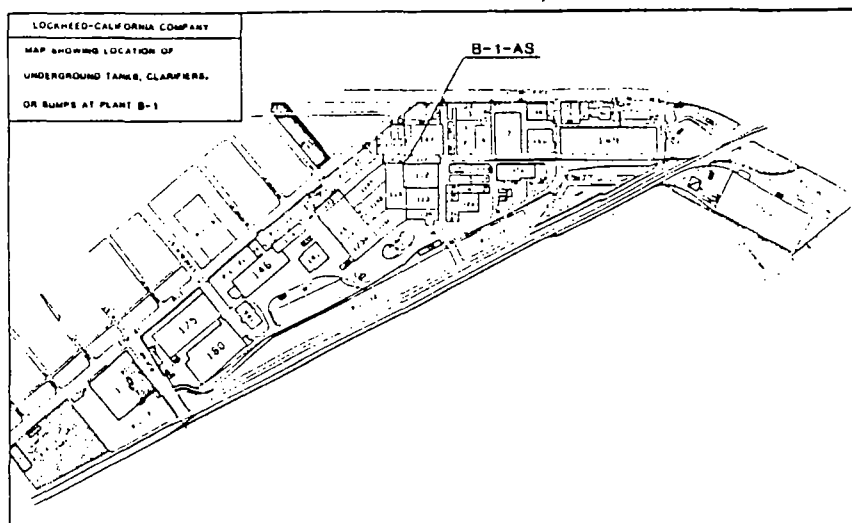
## PERTINENT CONSTRUCTION AND PROGRAM DATA

0838

Tank No.	B-1-AR	
Plant No./Nearest Bldg.	B-1/Bldg. 1GB (Inside)	
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	UNK
	Use/Process	Boiler blowdown clarifier (2-stage)
	Contents (past, CAS No., date)	UNK
	(present, CAS No.)	Poss. sulfides
	Construction Materials	Concrete
	Geometry	Rectangular
	Depth to Top	UNK
	Depth to Invert	UNK
	Diameter	2.3 ft
	Length (ft)	6.6 ft
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Sites:	Paving Material/Thickness	Concrete
	Appearance	UNK
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	Inspection
	Borings (No.)	0
	Sample Depths	
	Vapor Wells/Lysimeters (No.)	0
	Sample Depths	
	Completion Interval	
Laboratory Program (4)	No. of Tank Content Samples	0
	Parameters	
	No. of Tank Soil Samples	0
	Parameters	

## TANK B-1-AS

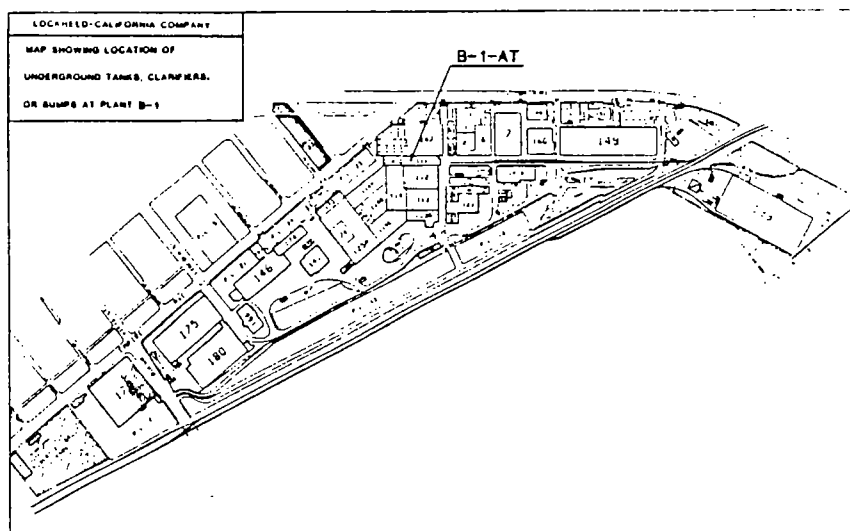
As proposed in the Work Plan, the integrity of Overspill Containment Facility B-1-AS was to have been determined by visual inspection. However, further discussion with CALAC personnel and Mr. Al Novak of the RWQCB resulted in the decision that soil analysis and a permanent monitoring installation would provide more thorough information. Therefore, Containment B-1-AS and adjacent Containment B-1-AT will be investigated using one, 20-foot boring which will be converted to a 10-foot suction lysimeter. The results of the field investigation and laboratory analysis of the samples will be added to this report when completed and available.



Tank No.	B-1-AS
Plant No./Nearest Bldg.	B-1/Bldg. III (Inside)
Tank:	Location 1705 Victory Place
	Installation Date UNK
	Capacity, gal. UNK
	Use/Process Metal cleaning rinse sump
	Contents (past, CAS No., date) UNK
	(present, CAS No.) Metal cleaning rinse water
	Construction Materials Concrete
	Geometry Rectangular
	Depth To Top UNK
	Depth To Invert UNK
	Diameter 5.9 ft
	Length (1) 18 ft
	Containment None
	Corrosive Protection (2) UNK
	Status in service
Tank Piping:	Number UNK
	Type UNK
	Construction Mat. Steel
Site:	Paving Material/Thickness Concrete
	Appearance UNK
	Surface Contamination UNK
Drilling Program:	Rig Type/Requirements (3) Portable H.S. Auger
	Borings (No.) 1
	Sample Depths 01/10, 20 ft
	Vapor Wells/Lysimeters (No.) 0
	Sample Depths
	Completion Interval
Laboratory Program (4)	
	No. of Tank Content Samples 0
	Parameters
	No. of Tank Soil Samples 1 (Comp.)
	Parameters Cr, pH

## TANK B-1-AT

As proposed in the Work Plan, the integrity of Overspill Containment Facility B-1-AT was to have been determined by visual inspection. However, further discussion with CALAC personnel and Mr. Al Novak of the RWQCB resulted in the decision that soil analysis and a permanent monitoring installation would provide more thorough information. Therefore, Containment B-1-AT and adjacent Containment B-1-AS will be investigated using one, 20-foot boring which will be converted to a 10-foot suction lysimeter. The results of the field investigation and laboratory analysis of the samples will be added to this report when completed and available.



## PERTINENT CONSTRUCTION AND PROGRAM DATA

0838

Tank No.	B-1-AT	
Plant No./Nearest Bldg.	B-1/Bldg. 111 (Inside)	
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	UNK
	Use/Process	Metal cleaning rinse sump
	Contents (past, CAS No., date)	UNK
	(present, CAS No.)	Metal cleaning rinse water
	Construction Materials	Concrete
	Geometry	Square
	Depth To Top	UNK
	Depth To Invert	UNK
	Diameter	UNK
	Length (L)	UNK
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Concrete
	Appearance	UNK
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	Portable H.S. Auger
	Borings (No.)	1
	Sample Depths	81/10, 20 ft
	Vapor Wells/Lysimeters (No.)	0
	Sample Depths	
	Completion Interval	
Laboratory Program (4)	No. of Tank Content Samples	0
	Parameters	
	No. of Tank Soil Samples	1 (Comp.)
	Parameters	Cr, pH



FIELD PROGRAM

Two borings, both of which were converted to vapor monitoring wells, were drilled to assess conditions surrounding Tank B-1-AU.

**BORING B-1-AU-B1/SUCTION LYSIMETER B-1-AU-SL1**

Monitoring Installations - Boring B-1-AU-B1/Vapor Monitoring Well B-1-U-MV1 was drilled/installed to monitor the waste oil tank as indicated in the approved Work Plan. The location of the boring/vapor monitoring well is indicated on the site map.

Sampling Intervals - Soil samples from the Boring/Vapor Monitoring Well were to have been collected at depths of 7, 17, 22, 30 and 40 feet according to the Work Plan. However, to expedite the procedures, samples were extracted from depths of 5, 10, 22, 32 and 40 feet. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampled intervals will significantly alter the chemical concentration profile of the soil.

Field Observations - The brown color and medium grain size of the sand remained consistent throughout the entire boring. The frequency of cobbles increased at 12 feet and continued to 25 feet.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. There were no indications of contamination.

**BORING B-1-AU-B1/VAPOR MONITORING WELL B-1-AU-MV1**

Monitoring Installations - In the original Work Plan, a boring and a separate vapor monitor well were approved to monitor at the north end of the tank. However, to expedite drilling, the well was placed in the boring upon completion of that facility. Well B-1-AU-MV2 was installed to monitor the waste oil tank as indicated on the site map.

Sampling Intervals - Soil samples were taken from the boring/vapor monitoring well at depths of 5, 10, 22, 32 and 40 feet.

Field Observations - The brown color and medium grain size of the sand remained consistent throughout the first 28 feet of the boring. At 28 feet, the color of the sand became slightly lighter brown and the gravel and cobble fraction increased.

There were no indications of contamination other than a very slight odor at 18 feet. The origin of the odor was not clear.

LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample of the contents of Tank B-1-AU was collected and treated with nitric acid to maintain the metals in soluble for subsequent CAM metals analysis. A second liquid sample was collected and analyzed for volatile organics and oil and grease. Individual soil samples from Boring B-1-AU-B1 were collected and analyzed for oil and grease. A composite of the individual soil samples collected from Boring B-1-AU-B2 was analyzed for volatile organics, petroleum hydrocarbons, and oil and grease.

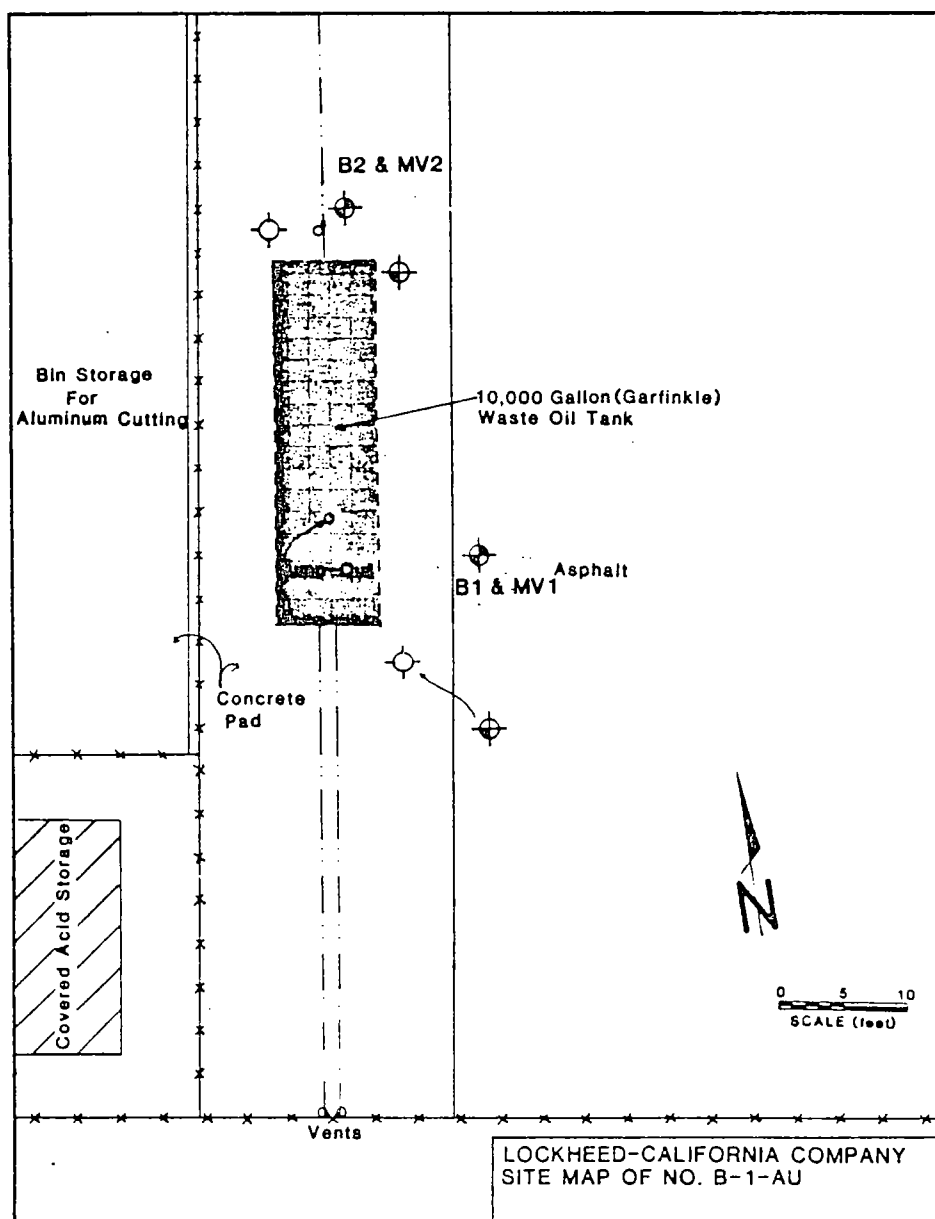
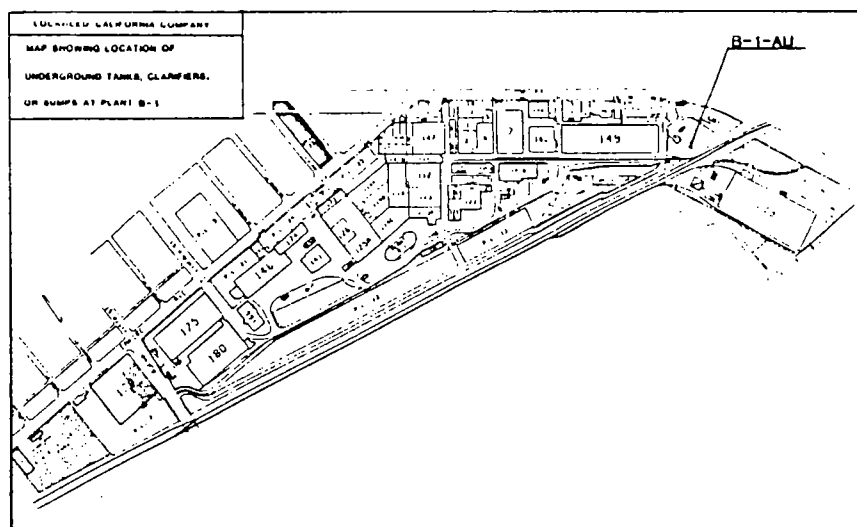
Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AU. The concentrations of CAM metals in the treated sample were found to be below the limits of detection or below the concentrations reported for the background soil samples. The untreated liquid sample was reported to contain 741 ug/kg trans-1,2 dichloroethene, 44.8 ug/kg trichloroethene, 35.2 ug/kg tetrachloroethene, and 254 mg/kg oil and grease. The individual-depth soil samples from Boring B-1-AU-B1 were found to contain concentrations of oil and grease that are below the limits of detection. A moderate concentration of chloroform (13.2 ug/kg) was reported for the B-1-AU-B2 (composite) soil sample. All other volatile organic compounds were found to be below the limits of detection. Since chloroform was not detected in the liquid sample, it is likely that the chloroform found in the B2 soil sample is due to surface spills.

CONCLUSIONS

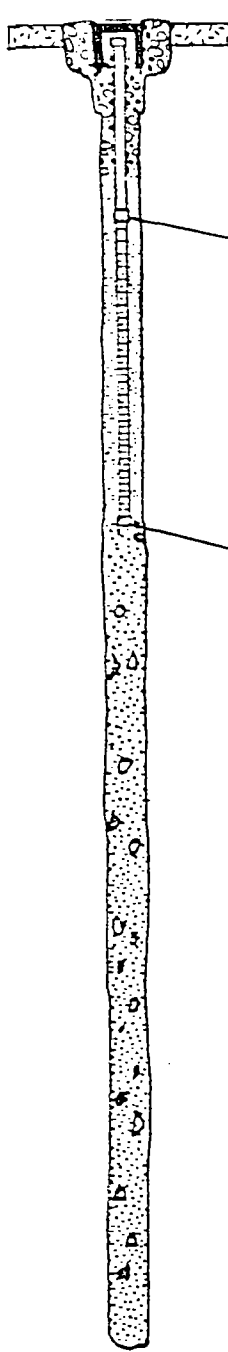
Based on field observations (slight odor), and laboratory analyses, it is concluded that Tank B-1-AU is not leaking. The moderate level of chloroform contamination found in the B-1-AU-B2 composite soil sample is likely due to surface spills.

RECOMMENDATION

Additional analyses on depth-specific samples is required to identify the source and extent of chloroform contamination around Tank B-1-AU.



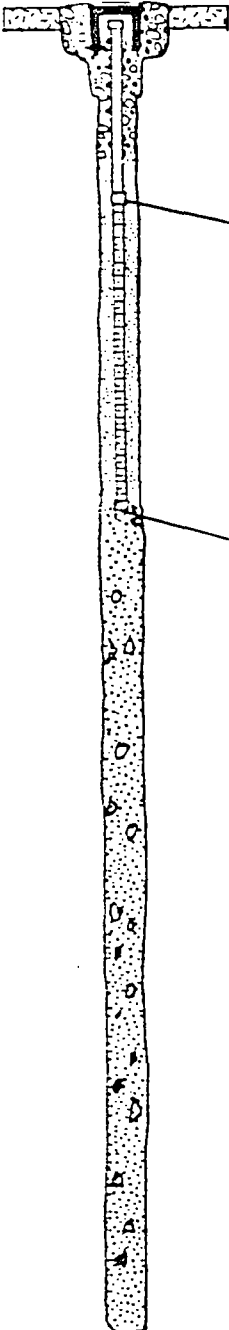
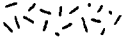
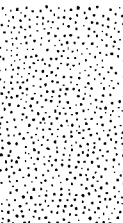

Tank No.		B-1-AU
Plant No./Nearest Bldg.		B-1/Bldg. 194 (S Side)
Tank:	Location	1705 Victory Place
	Installation Date	1980
	Capacity, gal.	10,000
	Use/Process	Stores cutting oils from aluminum chips
	Contents (past,CAS No.,date)	Tramp cutting oils
	(present,CAS No.)	Tramp cutting oils
	Construction Materials	Steel
	Geometry	Cylindrical
	Depth To Top	UNK
	Depth To Invert	UNK
	Diameter	8 ft
	Length (1)	27 ft
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In Service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	UNK
Site:	Paving Material/Thickness	Concrete
	Appearance	UNK
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	H.S. Auger
	Borings (No.)	2
	Sample Depths	B1/5,10,22,32,40 ft B2/5,10,22,32
	Vapor Wells/Lysimeters (No.)	2
	Sample Depths	MV1/REF. TO B1 MV2/REF. TO B2
	Completion Interval	MV1/8-17.5 ft ft MV2/8-17.8 ft
Laboratory Program (4)	No. of Tank Content Samples	3
	Parameters	CAM,Vol.Org Hydrocarbons
	No. of Tank Soil Samples	5 & 1(Comp.)
	Parameters	Hydrocarbons Vol.Org.

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -			- Asphalt
	- 2 -			- Sand, fine to medium grain, brown, moist, occasional cobbles
	- 4 -			
	- 6 -		20	
	- 8 -			
	- 10 -		25	
	- 12 -			
	- 14 -			
	- 16 -			
	- 18 -			
	- 20 -			- Cobbles
	- 22 -		30	- Odor
	- 24 -			
	- 26 -			
	- 28 -			- Slight color change, lighter
	- 30 -			
	- 32 -		50+	
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -		45	

## COMPLETION &amp; BACKFILL

- Blank 2-in I.D.  
PVC pipe, 0-8 ft
- Screened 2-in I.D.  
PVC pipe, 8-17.5 ft
- Concrete, 0-4 ft
- Bentonite, 4-5 ft
- Clean sand, 5-20 ft
- Native material, caved  
20-40 ft

TANK NO. B-1-AUBORING NO. B-1-AU-B1

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 -			- Asphalt
	- 2 -			- Sand, medium grain, brown, moist
	- 4 -		12	
	- 6 -			
	- 8 -			
	- 10 -		15	
	- 12 -			- Cobbles
	- 14 -			
	- 16 -			
	- 18 -			
	- 20 -			
	- 22 -		30	
	- 24 -			- Decreasing cobbles
	- 26 -			
	- 28 -			
	- 30 -			
	- 32 -		50+	
	- 34 -			
	- 36 -			
	- 38 -			
	- 40 -			

## COMPLETION &amp; BACKFILL

-Blank 2-in I.D.  
 PVC pipe, 0-8 ft  
 -Screened 2-in I.D.  
 PVC pipe, 8-17.8 ft  
 -Concrete, 0-4 ft  
 -Bentonite, 4-5 ft  
 -Clean sand, 5-18 ft  
 -Native material, caved  
 18-32 ft

TANK NO. B-1-AUBORING NO. B-1-AU-B2

TABLE B-1-AU: RESULTS OF CHEMICAL ANALYSES

PARAMETER	BACK- GROUND SAMPLE	TTL C	B-1-AU LIQUID TREATED	B-1-AU LIQUID UNTREATED	B-1-AU B1 5 ft.	B-1-AU B1 10 ft.	B-1-AU B1 22 ft.	B-1-AU B1 32 ft.	B-1-AU B2 COMPOSITE
Volatile Organics (ug/kg)		N.A.	N.T.		N.T.	N.T.	N.T.	N.T.	
Benzene	<0.2			N.D.					N.D.
Ethyl Benzene	<0.1			N.D.					N.D.
Chloroform	<0.1			N.D.					13.2
Chloromethane	<0.2			N.D.					N.D.
Chloroethane	<0.8			N.D.					N.D.
1,1-Dichloroethane	<0.1			N.D.					N.D.
1,2-Dichloroethane	<0.1			N.D.					N.D.
1,2-Dichloropropane	<0.1			N.D.					N.D.
1,1,1-Trichloroethane	<0.2			N.D.					N.D.
1,1,2-Trichloroethane	<0.1			N.D.					N.D.
Bromodichloromethane	<0.1			N.D.					N.D.
Dibromochloromethane	<0.1			N.D.					N.D.
1,1-Dichloroethene	<0.1			N.D.					N.D.
trans-1,2-Dichloroethene	<0.1			741					N.D.
Trichloroethene	<0.3	* 2,040		44.8					N.D.
Tetrachloroethene	<0.4			35.2					N.D.
Toluene	<0.4			N.D.					N.D.
Methyl Ethyl Ketone	<0.5			N.D.					N.D.
Petroleum Hydrocarbon (mg/kg)	<2.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	3.3
Oil & Grease (mg/kg)	N.T.	N.A.	N.T.	254	<1.0	<1.0	<1.0	<1.0	3.9
CAM Metals (mg/kg)				N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Antimony	<2.5	500	<0.25						
Arsenic	13.4	500	<0.25						
Barium	91.9	10,000	<0.05						
Beryllium	<1.0	75	<0.1						
Cadmium	<2.5	100	<0.05						
Chromium (Total)	9.6	2,500	5.8						
Cobalt	6.5	8,000	<0.1						
Copper	22.1	250	0.2						
Lead	<2.5	1,000	<0.25						
Mercury	<0.1	20	<0.0005						
Molybdenum	6.3	3,500	<0.1						
Nickel	8.4	2,000	0.1						
Selenium	<2.5	100	<0.25						
Silver	<2.5	500	<0.25						
Thallium	<2.5	700	<0.05						
Vanadium	22.0	2,400	0.05						
Zinc	38.7	2,500	1.2						
Others			N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
pH (standard units)	8.24	N.A.							
Sodium (mg/kg)	N.T.	N.A.							
Cyanide (mg/kg)	<0.2	N.A.							
Sulfate (mg/kg)	N.T.	N.A.							

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTL - TOTAL THROUGHOUT LIMIT CONCENTRATION

## TANK NUMBER B-1-AW

One boring, which upon completion was converted to a vapor monitoring well, B-1-AW-B1/MV1, was drilled/installed to monitor subsurface conditions at Sump B-1-AW. A visual inspection of Sump B-1-AW was also conducted. This small square waste oil sump was not included in the original Underground Tank Leak Detection Report for Plant B-1. The sump was obscured by movable equipment during the initial field location activity and was just recently exposed. The sump, although of smaller capacity, is similar to both B-1-J and B-1-AM facilities in both proximity and use.

FIELD PROGRAM

## VAPOR MONITORING WELL B-1-AW-B1/MV1

Monitoring Installation - Boring/Vapor Monitoring Well B-1-AW-B1/MV1, was drilled/installed to a depth of 40 feet and is located about 18 inches from the south east corner of the sump as indicated on the site map.

Sampling Intervals - Soil samples were collected from depths of 5, 12, 22 and 40 feet.

Field Observations - The soil consisted of a loose, soft greyish brown, medium sand to a depth of 15 feet. At 15 feet the soil became slightly more brown in color; the soil became darker brown at 21 feet and finally multicolored at 26 feet. Upon completion of sampling, a 20-foot vapor monitoring well with machine slots from 10 to 20 feet, was installed in the borehole.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. A slight odor was emanating from the soil between 7 and 9 feet.

## TANK NUMBER B-1-AW

Tank Inspection - Concrete Sump B-1-AW, although smaller, is similar to Sump B-1-J in both operational use and structure. It is monolithic in construction and its walls are an average 5-inches thick. All concrete is smooth and in good shape except for the top 5-inches of the south wall. The surface at the top



## TANK NUMBER B-1-AW continued

Tank Inspection continued

of the south wall is pock marked and uneven, again, probably from an incomplete pour of the concrete. The texture is marked deeply enough to possibly permit fluid to move through the width of the concrete; however, the outside surface of the concrete directly opposite the incomplete concrete is above grade and visible. As there was no evidence of leakage on the outside of the wall opposite the possible source, it is unlikely that any fissures emanating from the issected concrete are deep enough to provide a fluid conduit. If, however, the fissures plunge downward within the concrete and do not "daylight" above grade, there is a possibility of leakage. If this area of concrete is a source of leakage, which is unlikely, it is only active when the sump is from 2-inches of being full to overflowing.

The floor of the sump is not readily visible as the plywood form used in the construction of the sump is still in place. Because it was not possible to inspect beneath the plywood form, the floor of the sump is a possible source of leakage. However, as the oil stored in the sump does not tend to degrade concrete, and the floor of the sump is largely free from active structural stress, it is unlikely the floor of the sump would show fissures beyond that found on the walls. It is therefore concluded that Sump B-1-AW is not leaking.

LABORATORY PROGRAM AND ANALYSIS

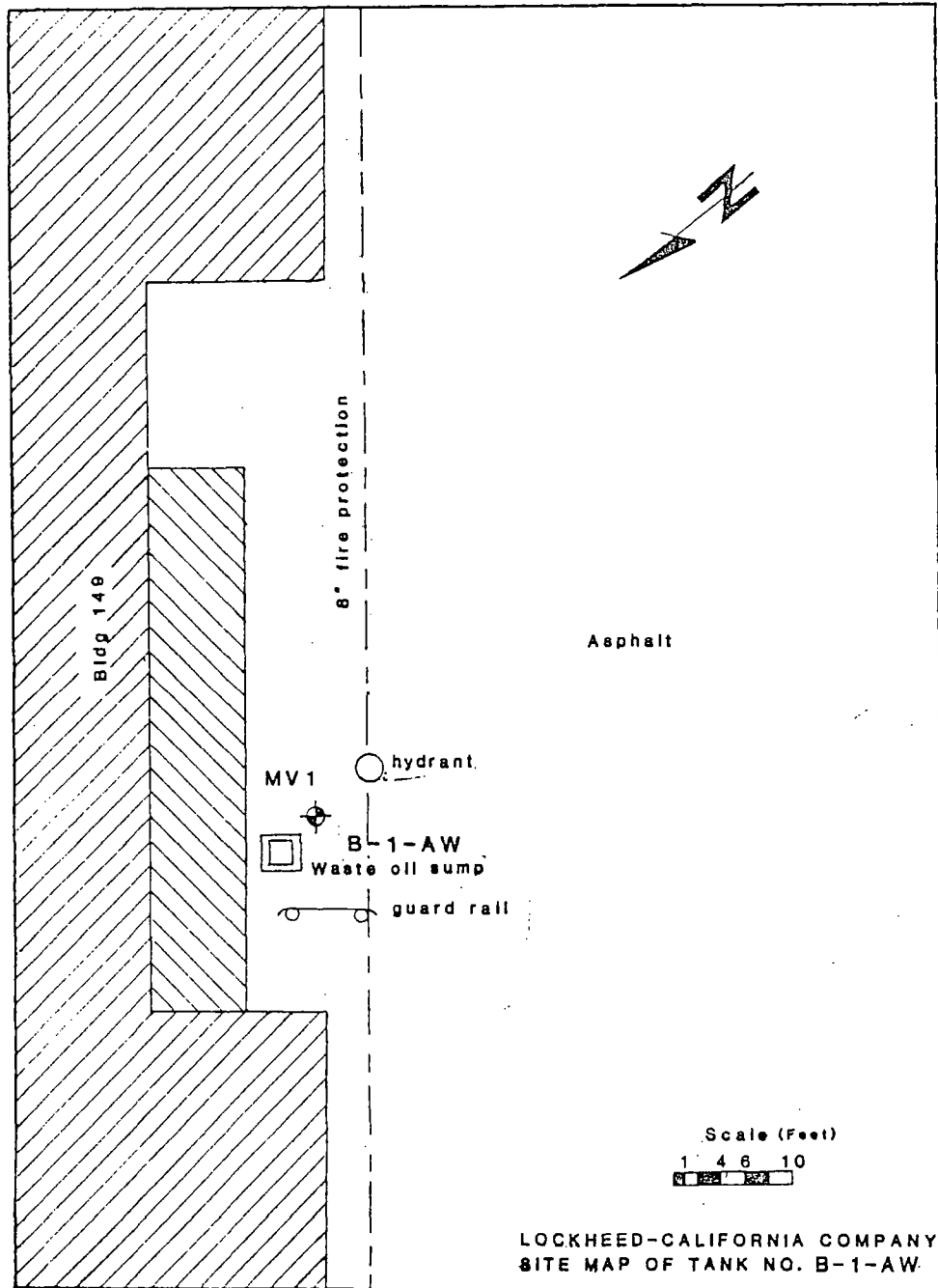
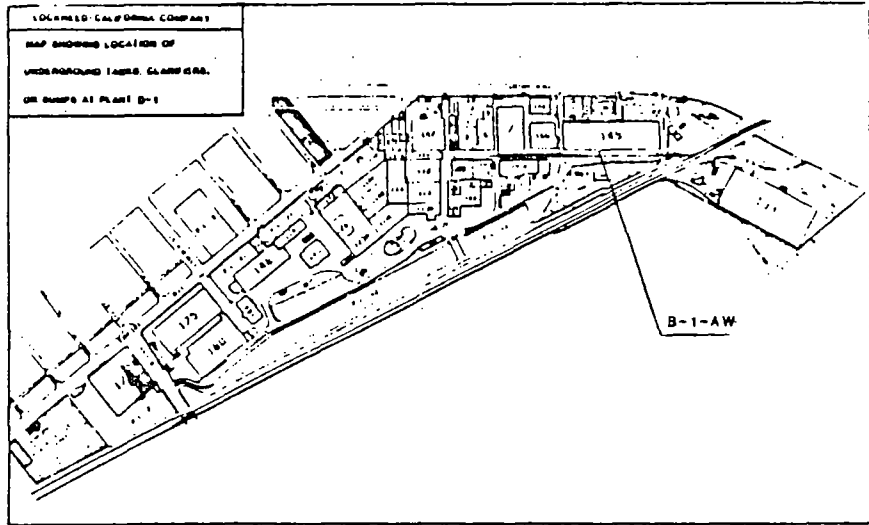
Laboratory Program - Soil samples were collected at depths of 5, 12, 22, and 40 feet from Boring B-1-AW-B1/MV1. Composites of the 5- and 12-foot samples and of the 22- and 40- foot samples were analyzed for oil and grease, chromium, copperk, and zinc. A composite of aliquots from the 5-, 12-, 22-, and 40-foot samples was analyzed for volatile organic compounds.

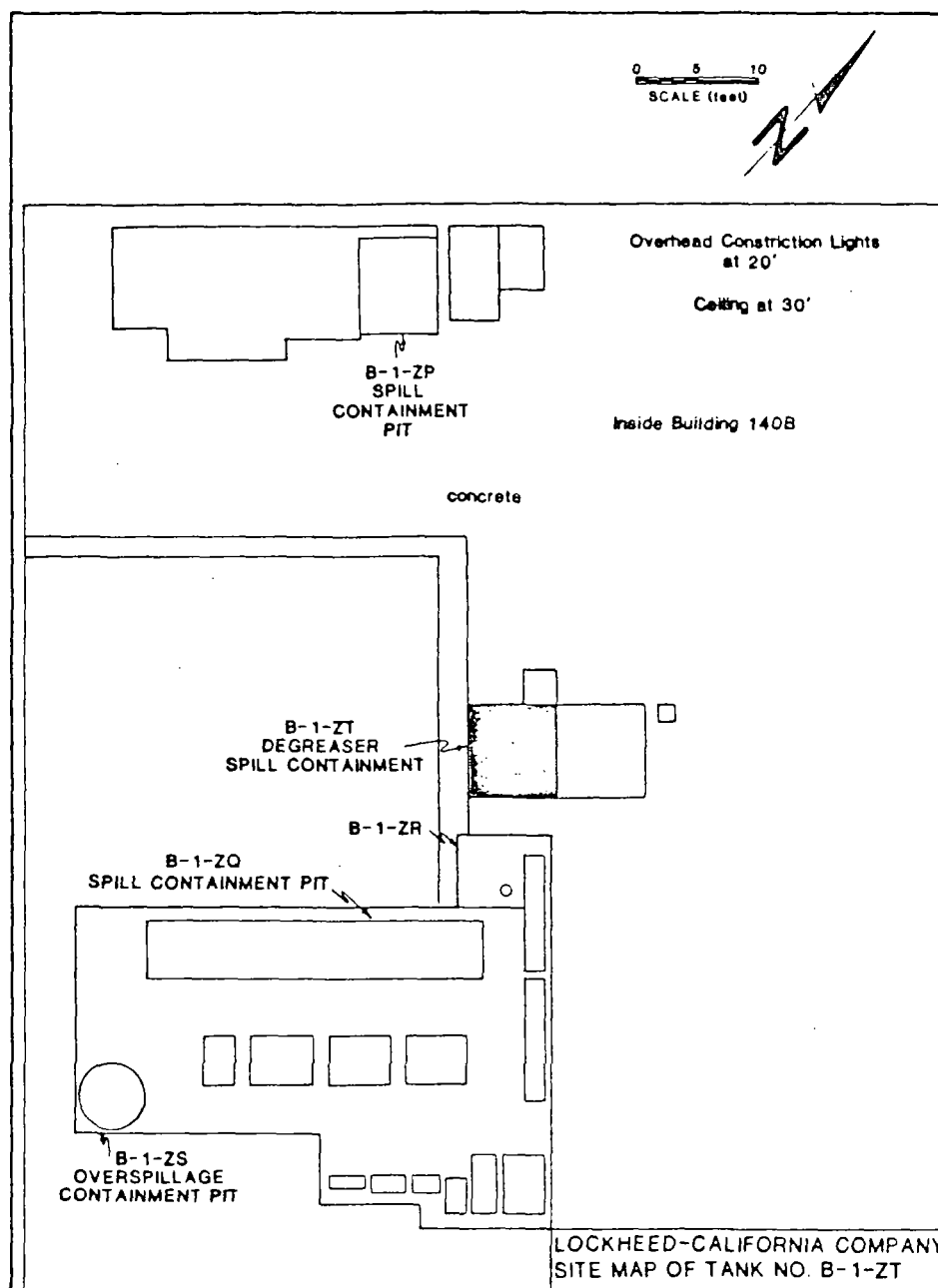
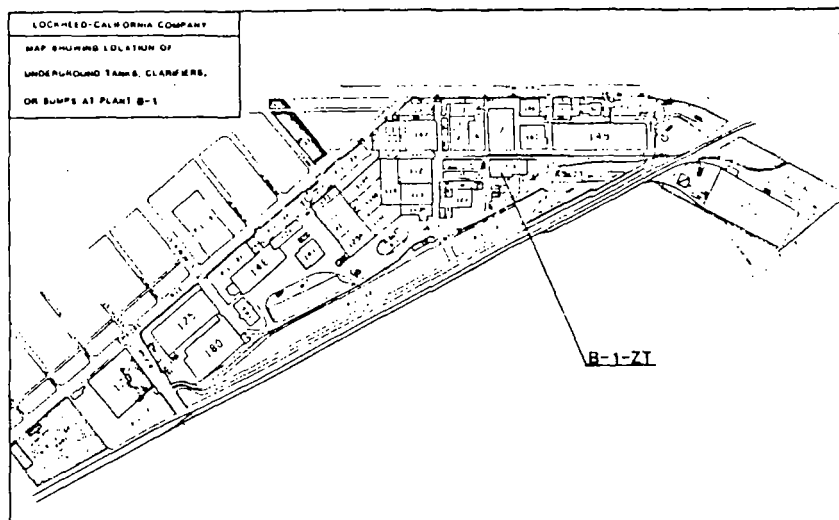
Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-AW. A moderate concentration of oil and grease was found in the composite of the 5- and 12- foot samples. Concentrations of chromium, copper, and zinc were below or near the levels reported for the background samples. The composite of samples collected from the 22- and 40-foot depths was found to contain low concentrations of oil and grease, chromium, and zinc. The concentrations of volatile organic compounds in the composite of the 5-, 12-, 22-, and 40-foot depths were all below the limits of detection.

TANK NUMBER B-1-AW continued

Conclusions - Based on field observations and on laboratory analyses, it is concluded that Sump B-1-AW is not leaking.

Recommendations - Proceed with quarterly monitoring of the vapor monitoring well. The walls of Sump B-1-AW are being extended to prevent overflow.





0838

Tank No.	B-1-21
Plant No./Nearest Bldg.	B-1/Bldg. 140b (Inside)
Tank:	Location 1705 Victory Place
	Installation Date UNK
	Capacity, gal. UNK
	Use/Process PERC degreaser spill containment
	Contents (past, CAS No., date) Perchloroethylene 127184
	(present, CAS No.) Perchloroethylene 127184
	Construction Materials Concrete
	Geometry Square
	Depth To Top UNK
	Depth To Invert UNK
	Diameter UNK
	Length (1) UNK
	Containment None
	Corrosive Protection (2) UNK
	Status In service
Tank Piping:	Number UNK
	Type UNK
	Construction Mat. Steel
Site:	Paving Material/Thickness Concrete
	Appearance UNK
	Surface Contamination UNK
Drilling Program:	Log Type/Requirements (3) Portable H.S. Auger
	Borings (No.) 1
	Sample Depths B1/REF. TO B-1-2K
	Vapor Wells/Lysimeters (No.) 1
	Sample Depths
	Completion Interval
Laboratory Program (4)	
	No. of Tank Content Samples 0
	Parameters
	No. of Tank Soil Samples 0
	Parameters

TABLE B-1-ZY: RESULTS OF CHEMICAL ANALYSES

PARAMETER	BACK- GROUND SAMPLE	TTLIC	B-1-ZY LIQUID TREATED	B-1-ZY LIQUID UNTREATED	B-1-ZY B1 5 ft.	B-1-ZY B1 12 ft.	B-1-ZY B1 17 ft.	B-1-ZY B1 30 ft.	B-1-ZY B1 38 ft.
Volatile Organics (ug/kg)		N.A.	N.T.		N.D.	N.D.	N.D.		
Benzene	<0.2			N.D.				N.D.	N.D.
Ethyl Benzene	<0.1			N.D.				N.D.	N.D.
Chloroform	<0.1			7.8				N.D.	N.D.
Chloromethane	<0.2			N.D.				N.D.	N.D.
Chloroethane	<0.8			N.D.				N.D.	N.D.
1,1-Dichloroethane	<0.1			N.D.				N.D.	N.D.
1,2-Dichloroethane	<0.1			N.D.				N.D.	N.D.
1,2-Dichloropropane	<0.1			N.D.				N.D.	N.D.
1,1,1-Trichloroethane	<0.2			N.D.				N.D.	N.D.
1,1,2-Trichloroethane	<0.1			N.D.				N.D.	N.D.
Bromodichloromethane	<0.1			5.1				N.D.	N.D.
Dibromochloromethane	<0.1			2.3				N.D.	N.D.
1,1-Dichloroethene	<0.1			N.D.				N.D.	N.D.
trans-1,2-Dichloroethene	<0.1			N.D.				N.D.	N.D.
Trichloroethene	<0.3	± 2,040		N.D.				N.D.	N.D.
Tetrachloroethene	<0.4			1.6				16.1	5.3
Toluene	<0.4			N.D.				N.D.	N.D.
Methyl Ethyl Ketone	<0.5			N.D.				N.D.	N.D.
Petroleum Hydrocarbon (mg/kg)	<2.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Oil & Grease (mg/kg)	N.T.	N.A.	N.T.	41.5	N.T.	N.T.	N.T.	N.T.	N.T.
CAM Metals (mg/kg)				N.T.					
Antimony	<2.5	500	<0.25		<2.5	<2.5	<2.5	<2.5	<2.5
Arsenic	13.4	500	<0.25		27.0	9.4	9.3	18.7	22.3
Barium	91.9	10,000	1.6		101	30.3	28.9	41.0	79.4
Beryllium	<1.0	75	<0.1		<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	<2.5	100	<0.05		<0.5	<0.5	<0.5	2.71	<0.5
Chromium (Total)	9.6	2,500	6.7		13.3	<0.5	5.4	<0.5	11.4
Cobalt	6.5	8,000	0.5		9.3	4.7	2.8	3.1	8.6
Copper	22.1	250	6.9		13.3	<1.0	6.0	<1.0	8.9
Lead	<2.5	1,000	2.9		4.4	<2.5	<2.5	<2.5	<2.5
Mercury	<0.1	20	0.004		0.146	0.198	0.139	0.147	0.197
Molybdenum	6.3	3,500	<0.1		17.6	8.2	5.2	5.2	14.2
Nickel	8.4	2,000	0.1		8.4	<0.5	2.9	<0.5	6.9
Selenium	<2.5	100	<0.25		<2.5	<2.5	<2.5	<2.5	<2.5
Silver	<2.5	500	<0.3		<2.5	<2.5	<2.5	<2.5	<2.5
Thallium	<2.5	700	<0.05		<2.5	<2.5	<2.5	<2.5	<2.5
Vanadium	22.0	2,400	<0.05		30.6	11.8	12.7	12.0	26.3
Zinc	38.7	2,500	21.6		54.5	<0.5	17.2	<0.5	34.6
Others				N.T.					
pH (standard units)	8.24	N.A.		8.09	8.65	8.67	8.49	7.78	8.76
Sodium (mg/kg)	N.T.	N.A.		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Cyanide (mg/kg)	<0.2	N.A.		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Sulfate (mg/kg)	N.T.	N.A.		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTLIC - TOTAL THRESHOLD LIMIT CONCENTRATION

\* mg/kg

FIELD PROGRAM

One boring, which was converted to a suction lysimeter, was drilled/installed to assess conditions surrounding Clarifier B-1-ZY.

BORING B-1-ZY-B1/SUCTION LYSIMETER B-1-ZY-SL1

Monitoring Installations - Boring/Suction Lysimeter B-1-ZY-B1/SL1 was drilled/installed north of the approved location due to rig access problems. Both the actual and approved locations of the boring/suction lysimeter are indicated on the site map.

Sampling Intervals - Soil samples from the boring/suction lysimeter were to have been collected at depths of 7, 14, 20, 30 and 40 feet according to the Work Plan. However, the samples were extracted from depths at 5, 12, 17, 30 and 40 feet. These depths represent intervals which should provide sufficient characterization of the chemical profile of the soil.

Field Observations - The gray color and fine grain size of the sand remained consistent throughout the first 10 feet of the boring/suction lysimeter. At 10 feet, the sand became lighter gray and the grain size became more coarse. At 39 feet, the sand became brown.

Indications of possible contamination were based upon observations of odor, color, moisture content, and soil consistency. The soil from just below the surface to 39 feet is discolored. The brown sand that predominates the lithology has been altered to various shades of gray in the upper 39 feet of the excavation. There was also a slight odor associated with the grey sand.

LABORATORY PROGRAM AND ANALYSISLaboratory Program

A liquid sample was collected from Clarifier B-1-ZY and treated with nitric acid to maintain metals in soluble form for subsequent CAM metals analysis. A second liquid sample was collected and analyzed for volatile organic compounds, oil and grease, and pH. Individual soil samples were collected from Boring B-1-ZY-B1 and analyzed for volatile organics, CAM metals, and pH.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-1-ZY. The treated liquid sample was found to contain concentrations of CAM metals that are below the limits of detection or near the levels reported for the background sample. The untreated liquid sample was reported to

contain 7.8 ug/kg chloroform, 5.1 ug/kg bromodichloromethane, 2.3 ug/kg dibromochloromethane, 1.6 ug/kg tetrachloroethene, and 41.5 mg/kg oil and grease. Low to moderate concentrations of tetrachloroethene (5.3 ug/kg and 18.1 ug/kg) were found in the 30 and 38 foot soil samples from Boring B-1-ZY-B1. Volatile organic compounds were not detected in any of the other soil samples.

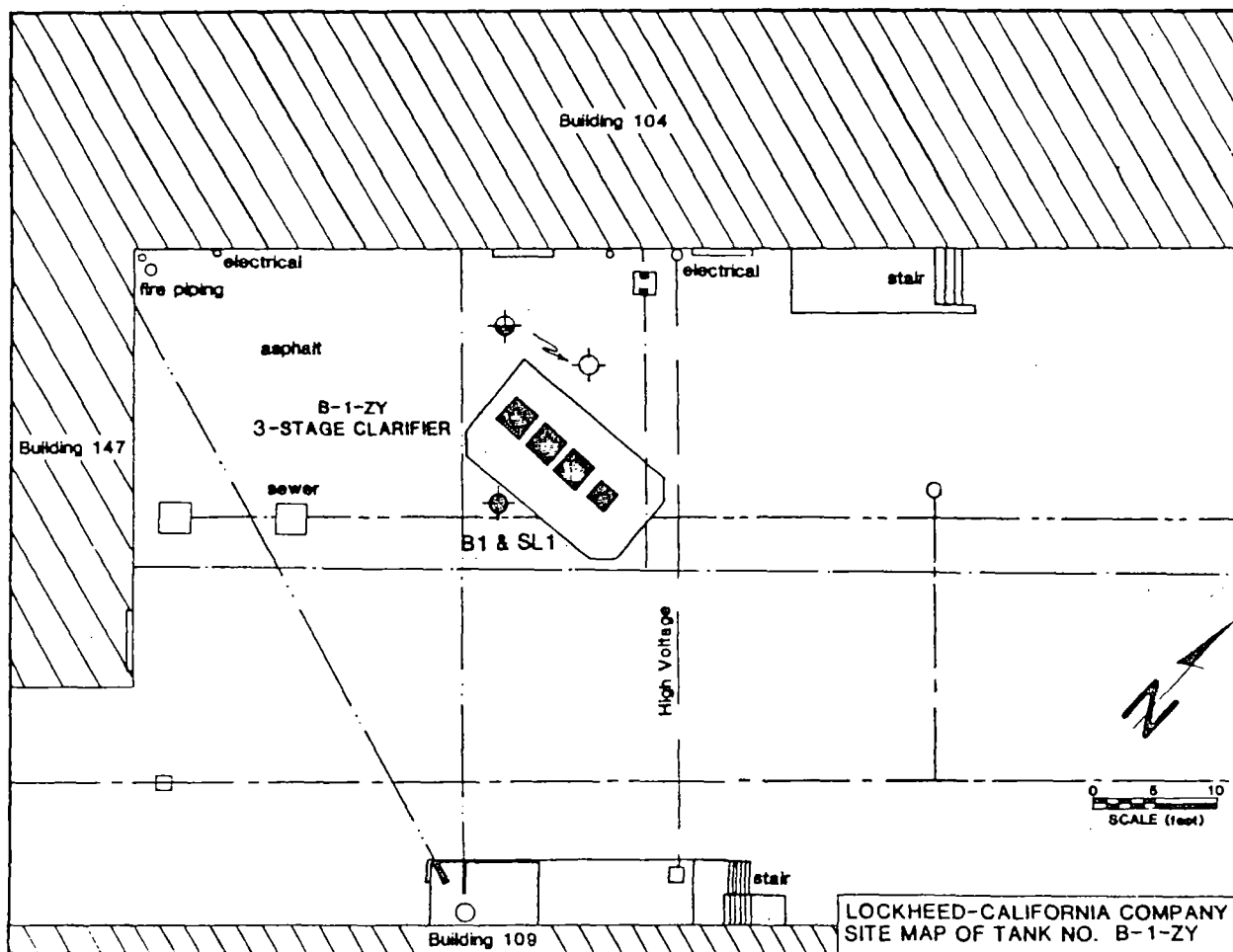
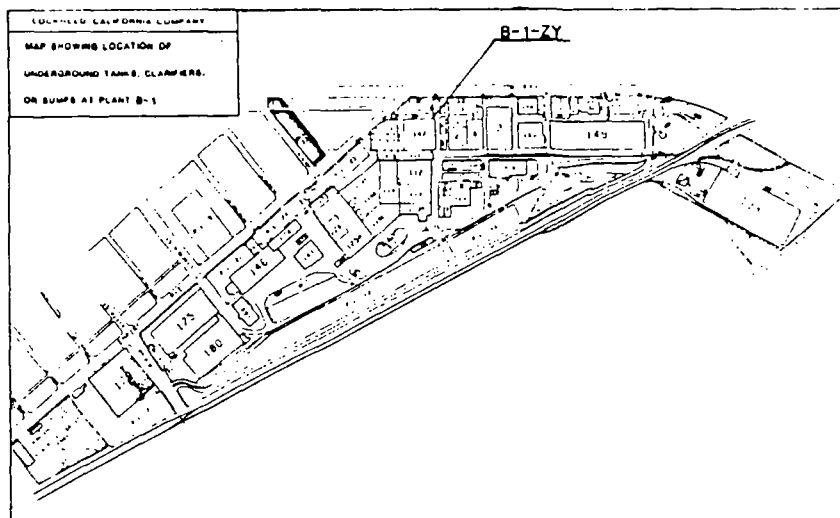
#### CONCLUSIONS

Based on field observations (slight odor) and laboratory analysis results, it is concluded that it is unlikely the clarifier is leaking. Additional sources of contamination include clarifier overflow and surface spills.

#### RECOMMENDATIONS

A tank integrity test and additional sampling and analysis is required to determine the source of contamination in the soil around Clarifier B-1-ZY.

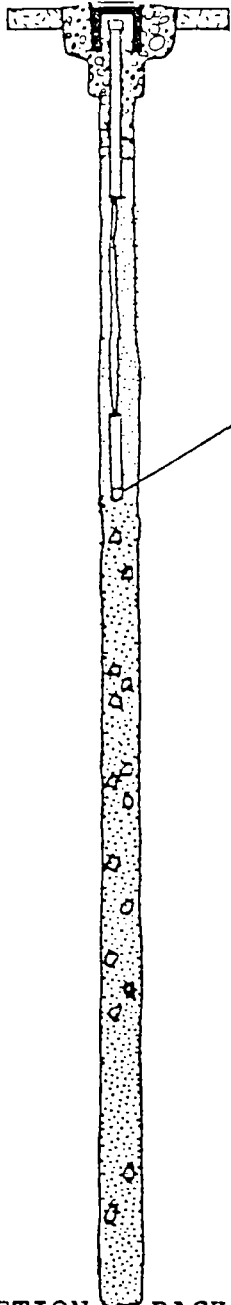




## PERTINENT CONSTRUCTION AND PROGRAM DATA

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Tank No.	B-1-2Y	
Plant No./Nearest Bldg.	B-1/Bldg. 104 (S Side)	
Tank:	Location	1705 Victory Place
	Installation Date	UNK
	Capacity, gal.	UNK
	Use/Process	Clarifier (4-stage)
	Contents (past, CAS No., date)	Deburring agent
	(present, CAS No.)	Deburring agent
	Construction Materials	Concrete
	Geometry	Rectangular
	Depth To Top	UNK
	Depth To Invert	9.3 ft
	Diameter	2.2 ft
	Length (1)	17 ft
	Containment	None
	Corrosive Protection (2)	UNK
	Status	In service
Tank Piping:	Number	UNK
	Type	UNK
	Construction Mat.	Steel
Site:	Paving Material/Thickness	Asphalt
	Appearance	UNK
	Surface Contamination	UNK
Drilling Program:	Rig Type/Requirements (3)	M.S. Auger
	Borings (No.)	1
	Sample Depths	B1/5, 12, 17, 30 ft Jar 38 ft
	Vapor Wells/Lysimeters (No.)	1
	Sample Depths	SL1/REF. TO B1
	Completion Interval	SL1/9 ft
Laboratory Program (4)	No. of Tank Content Samples	3
	Parameters	CAR, pH, Vol. Org. Hydrocarbons
	No. of Tank Soil Samples	5
	Parameters	CAR, pH Vol. Org.

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
 <p>COMPLETION &amp; BACKFILL</p>	- 0 -			-Asphalt
	- 2 -			-Concrete, 5-in thick
	- 4 -			-Sand, fine grain, gray, slightly cohesive, slightly moist, sewage odor, occasional pebbles
	- 6 -		11	
	- 8 -			-At 4.5 ft, thin lenses of lighter gray, very loose
	- 10 -			
	- 12 -		47	-Sand, coarse grain, gray, occasional cobbles, frequent gravel, odor
	- 14 -			
	- 16 -			
	- 18 -		50+	
	- 20 -			
	- 22 -			
	- 24 -			
	- 26 -			
	- 28 -			
	- 30 -		50+	
	- 32 -			
	- 34 -			
	- 36 -			
	- 38 -		Jar	-Color change
	- 40 -			Sand, medium to coarse grain, brown, odor continues

-Suction Lysimeter at 9 ft  
 -Blank 2-in I.D. PVC pipe, 0-5 ft  
 -Concrete, 0-4 ft  
 -Bentonite, 4-5 ft  
 -Clean sand & native mix, 5-9 ft  
 -Native material, caved 9-40 ft

TANK NO. B-1-ZY

BORING NO. B-1-ZY-B1

APPENDIX C  
LABORATORY REPORTS

0838

DIRECTORY TANK INTEGRITY TEST RESULTS

LOCKHEED PLANT B-1

TANK NUMBER	EZY-CHECK WORK SHEET NO.
-------------	-----------------------------

B-1-C

1

0838

# EZY-CHEK WORK SHEET NO. 1

Comphay Name Dean Gregg & AssociatesContact John GreggAddress 18351 Beach Blvd.City, State Huntington Beach, California 92647

Telephone \_\_\_\_\_

Contractor Horner Creative Metals, Inc.Address 211 East Grove StreetCity, State Kawkawlin, Michigan 48631

Tank#	Capacity	Diameter	Product
A-1-F 10	12,000	96"	Diesel
B-1-C	5,000	96"	Waste Water
B-6-U	6,000	96"	Motor Oil
B-6-Q	150	30"	Gas & Diesel Mixed
B-6-N	550	38"	Waste Water

Tank Farm Location Lockheed California Company

Contact \_\_\_\_\_

Address 2555 N. Hollywood WayCity, State Burbank, California

Telephone \_\_\_\_\_

Operator David Parkhurst *David Parkhurst*Date May 31, 1985

Telephone \_\_\_\_\_

High Test Results	Low Test Results	Certified Tight
<u>-.0018 g.p.h.</u>	<u>N/R</u>	<u>Yes</u>
<u>-.009 g.p.h.</u>	<u>N/R</u>	<u>Yes</u>
<u>-.0067 g.p.h.</u>	<u>N/R</u>	<u>Yes</u>
<u>-.00222 g.p.h.</u>	<u>N/R</u>	<u>Yes</u>
<u>+.0053 g.p.h.</u>	<u>N/R</u>	<u>Yes</u>

Remarks All of the above tank systems certified tight according to N.F.P.A. #329. Tank #A-1-F 10 is equipped with  
a submerged pump. The product line should be disconnected and a separate hydrostatic line test performed.

DIRECTORY OF CHEMICAL ANALYSES FOR SAMPLES COLLECTED AT LOCKHEED PLANT B-1

SAMPLE I.D.                      LAB REPORT NO.

NON-FUELS

B-1-BACKGROUND	1572
B-1-C (B1)	1621
B-1-H (UNTREATED)	1746
B-1-H (B1)	T-2034
B-1-I (UNTREATED)	1746
B-1-I (B1)	T-2034
B-1-J (UNTREATED)	1746,1778
B-1-J (B1)	1630
B-1-J (MV1)	1635
B-1-U (B1)	1943
B-1-U (B2)	1970,1643
B-1-U (SL1)	1635
B-1-Z (B1)	1572
B-1-AA (UNTREATED)	1746,1778
B-1-AA (B1)	1611
B-1-AA (B2)	1621
B-1-AC (TREATED)	1746
B-1-AC (UNTREATED)	1746,1778
B-1-AC (SL1)	1715
B-1-AE (UNTREATED)	1746
B-1-AE (B1)	1621
B-1-AE (B2)	1621
B-1-AH (UNTREATED)	1746,1778
B-1-AH (B1)	1652
B-1-AI (TREATED)	1746
B-1-AI (UNTREATED)	1746,1778
B-1-AI (B1)	1652
B-1-AI (SL1)	1621
B-1-AJ (TREATED)	1746
B-1-AJ (UNTREATED)	1746,1778
B-1-AJ (B1)	1686
B-1-AJ (MV1)	1686
B-1-AK (B1)	1686
B-1-AL (TREATED)	1746
B-1-AL (UNTREATED)	1746,1778
B-1-AL (B1)	1686
B-1-AM (B1)	T-2034, T-2275
B-1-AM (B2)	1970,1630
B-1-AN (TREATED)	1746
B-1-AN (UNTREATED)	1746,1778
B-1-AN (B1)	1970,1686

SAMPLE I.D.                      LAB REPORT NO.

B-1-AP (TREATED)	1746
B-1-AP (UNTREATED)	1746,1778
B-1-AP (B1)	1970,1686
B-1-AU (TREATED)	1746
B-1-AU (UNTREATED)	1746,1778
B-1-AU (B1)	1490
B-1-AU (B2)	1490
B-1-ZB (B1)	1970,1685
B-1-ZC (UNTREATED)	1778
B-1-ZC (B1)	1970,1685
B-1-ZE (B1)	1635
B-1-ZE (B2)	1635
B-1-ZF (SL1)	1970,1715
B-1-ZG (B1)	1693
B-1-ZI (B1)	1630
B-1-ZJ (SL1)	1715
B-1-ZM (TREATED)	1746
B-1-ZM (UNTREATED)	1746,1778
B-1-ZM (B1)	1685
B-1-ZN (TREATED)	1746
B-1-ZN (UNTREATED)	1746,1778
B-1-ZN (B1)	1643
B-1-ZY (TREATED)	1746
B-1-ZY (UNTREATED)	1746,1778
B-1-ZY (B1)	1667

FUELS

B-1-F1 (MV1)	1596
B-1-F1 (MV2)	1611
B-1-F2 (MV1)	1611
B-1-F3 (MV1)	1686
B-1-F4 (MV1)	1596
B-1-F4 (MV2)	1596
B-1-F13 (MV1)	1572
B-1-F13 (MV2)	1572
B-1-F14 (MV1)	1611
B-1-F14 (MV2)	1611

DIRECTORY OF CHEMICAL ANALYSES  
RWQCB REQUESTED ACTIONS - LOCKHEED PLANT B-1

SAMPLE I.D.	LAB REPORT NO.
B-1-ZB	ACUREX 8506-024
B-1-ZI	2261 ACUREX 8505-017
B-1-AW	2186



October 16, 1984

Gregg & Associates  
18351 Beach Blvd.  
Huntington Beach, CA 92647

Attention: Dean Gregg

RE: Lockheed project; #84-106

On September 18, 1984 Analytical Technologies, Inc. received the fourth shipment of samples collected from the Lockheed project site. This shipment contained 14 soil samples and 5 water samples. Described below is the disposition of each sample.

- 1) These soil samples were analyzed for petroleum hydrocarbons (EPA Method 418.1) and/or oil and grease (EPA method 413.2).

✓ A1-F1-MV1 @ 14'  
✓ Composite of A1-F2-MV1 @ 15' and A1-F2-MV2 @ 14'  
✓ A1-F3-MV1 @ 20'  
✓ B-1-FAN @ 5' (B-1)  
✓ B-1-FAN @ 10' (B-1)  
✓ B-1-FAN @ 22' (B-1)  
✓ B-1-FAN @ 32' (B-1)  
✓ B-1-FAN @ x' (B-1)  
✓ Composite of B-1-F (B-2) @ 10', 22', 32' and 39'

- 2) This soil was analyzed for volatile organics using GC (EPA Method 8010 & 8020)

✓ Composite of B-1-FAN (B-2) @ 10', 22', 32' and 39'

- 3) These water samples were analyzed for one or more of the following: CAM metals, sulfate, chloride and sodium.

✓ A-1-A  
✓ A-1-B  
✓ A-1-C

✓ A-1-P  
✓ A-1-X

- 4) These water samples were analyzed for volatile organics (EPA Method 601 & 602) and pH.

✓ A-1-A  
✓ A-1-B  
✓ A-1-C

✓ A-1-P  
✓ A-1-X

October 16, 1984

Page 2

✓5) One soil sample was archived - B-1-F (B-2) @ 5'

All samples were analyzed in accordance with EPA methods or equivalent. Attached are the data summaries. If you have any questions, please call.

*Carolyn Sites*  
Carolyn Sites  
Data Manager

Reviewed by *Mark King*  
Mark King  
Laboratory Supervisor

CAS/br

Enclosures

NOTE: These samples will be disposed of 30 days from the date of this report, unless informed otherwise.

## PETROLEUM HYDROCARBONS, OIL &amp; GREASE

## Data Summary

(EPA Method 418.1 and 413.2)

Gregg & Associates  
Lockheed ProjectReceived: 9-18-84  
Analyzed: 10-10-84

Sample I.D.	Petroleum Hydrocarbons (mg/kg)	Oil & Grease (mg/kg)
A1-F1-MV1 @ 14'	13.7	11.5
A1-F2-MV1 @ 15' and A1-F2-MV2 @ 14' (composite)	2.1	NR
A1-F3-MV1 @ 20'	26.5	NR
B-1-FA @ 5' (B-1)	NR	<1.0
B-1-FA @ 10' (B-1)	NR	<1.0
B-1-FA @ 22' (B-1)	NR	<1.0
B-1-FA @ 32' (B-1)	NR	<1.0
B-1-FA @ x' (B-1)	NR	<1.0
B-1-FA (B-2) @ 10', 22', 32' and 39' (composite)	3.3	3.9

Spike Recovery

80.7%

NR = test not requested for this sample

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VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 601 & 602)

Client: GREGG & ASSOCIATES Date Collected: 9-18-84  
 Sample I.D.: Composite B-1-Au(B-2) Date Received by Lab: 9-18-84  
010', 22', 32', & 39'  
 Sample Matrix: Soil Date Analyzed: 9-29-84

<u>µg/L</u>		<u>µg/L</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
13.2	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		



Analytical Technologies, Inc.

Corporate Offices 225 W. 30th Street National City, CA 92050 619 477 4173

I.D.# 01-001572

December 6, 1984

RECEIVED DEC 11 1984

Gregg & Associates  
18351 Beach Blvd, Suite L  
Huntington Beach, CA 92647

Attention: Dean Gregg

RE: Lockheed Project; #84-106

On October 12, 1984 Analytical Technologies, Inc. received the eighth shipment of 18 soil samples collected from the Lockheed project site. These samples were analyzed for volatile organics, petroleum hydrocarbons, metals, pH and cyanide.

Described below is the disposition of each sample:

- 1) These samples were analyzed for volatile organics in accordance with EPA methods 8010/8020.

A1-Background 10'	B1-Background 10'
A1-Background 20'	B1-Background 20'
A1-Background 30'	B1-Background 30'
A1-Background 40'	B1-Background 40'
Composite of B6-S-B1 10' and 16'	
Composite of B6-S-B1 30' and 40'	
Composite of B1-Z-B1 30' and 40'	
B1-Z-B1 10'	
B1-Z-B1 20'	

- 2) These samples were analyzed for one or more of the following: petroleum hydrocarbons, pH, cyanide and the CAM list of metals

A1-Background 10'	B1-Background 10'
A1-Background 20'	B1-Background 20'
A1-Background 30'	B1-Background 30'
A1-Background 40'	B1-Background 40'
B1-Z-B1 10'	
B1-Z-B1 20'	
Composite of B1-Z-B1 30' and 40'	
Composite of B1-F13-MV1 12' and B1-F13-MV2 12'	

All Samples analyses were in accordance with EPA methods or equivalent. Attached are the test results if you have any questions, please call.

*Carolyn A. Sites*

Carolyn A. Sites  
Data Manager

Reviewed by

*Mark King*  
Mark King  
Laboratory Supervisor



Analytical **Technologies, Inc.**

Corporate Offices, 225 W. 30th Street National City, CA 92050 619 477-4173

RECEIVED FEB - 1 1985

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I.D. 01-001572


January 31, 1985

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

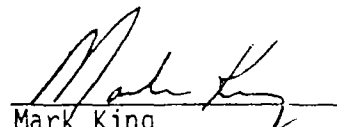
Attention: Ed Baquerizo

Sample composite B1-F13-MV1 12'/B1-F13-MV12' was analyzed for petroleum hydrocarbons on October 26, 1984. Analysis was done by extracting the sample with freon, then analyzing the extract using infrared spectrophotometry, in accordance with EPA method 418.1. Listed below is the test result.

<u>Sample</u>	<u>Petroleum Hydrocarbons, mg/kg</u>
B1-F13-MV1 12'/ B1-F13-MV2 12' Composite	< 2.0

  
John W. Strand  
Support Services Manager

Reviewed by

  
Mark King  
Laboratory Manager

ML:mat

0838

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 10/10/84  
 Sample I.D.: B1-7-B1 10' Date Received by Lab: 10/12/84  
 Sample Matrix: Soil Date Analyzed: 11/19/84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane	6.8	Methyl Ethyl Ketone
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 10/10/84  
 Sample I.D.: B1-7-B1 20' Date Received by Lab: 10/12/84  
 Sample Matrix: Soil Date Analyzed: 11/19/84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane	8.1	Methyl Ethyl Ketone
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		



VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: <u>Gregg &amp; Associates</u>	Date Collected: <u>10/10/84</u>
Sample I.D.: <u>B1-Z-B1 30' &amp; 40'</u>	Date Received by Lab: <u>10/12/84</u>
Sample Matrix: <u>Soil Composite</u>	Date Analyzed: <u>11/19/84</u>

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 10/12/84  
 Sample I.D.: B1-Background Date Received by Lab: 10/12/84  
 Sample Matrix: Soil Date Analyzed: 11/19/84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 10/12/84  
 Sample I.D.: B-1 Background 20' Date Received by Lab: 10/12/84  
 Sample Matrix: Soil Date Analyzed: 11/19/84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & AssociatesDate Collected: 10/12/84Sample I.D.: B1-Background 30'Date Received by Lab: 10/12/84Sample Matrix: SoilDate Analyzed: 11/19/84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

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VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 10/12/84  
 Sample I.D.: B1-Background 40' Date Received by Lab: 10/12/84  
 Sample Matrix: Soil Date Analyzed: 11/19/84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

0838

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & AssociatesDate Received: 10/12/84Sample I.D.: B1-Z-B1 10'Date Analyzed: 10/19 to 26/84Sample Matrix: SoilConcentration: Total (TTLC)

(Circle One)

mg/L or mg/Kg< 2.5

Antimony

< 0.2

Cyanide

18.0

Arsenic

8.63

pH (units)

103

Barium

< 2.0

Petroleum Hydrocarbons

< 1.0

Beryllium

< 2.5

Cadmium

14.6

Chromium (total)

< 0.05

\*Chromium (hexavalent)

8.9

Cobalt

22.2

Copper

4.38

Lead

< 0.1

Mercury

9.0

Molybdenum

13.3

Nickel

< 2.5

Selenium

< 2.5

Silver

< 2.5

Thallium

31.7

Vanadium

50.0

Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10/12/84  
 Sample I.D.: B1-Z-B1 20' Date Analyzed: 10/19 to 26/84  
 Sample Matrix: Soil Concentration: Total (TTLC)

(Circle One)  
 mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony	<u>&lt;0.2</u>	Cyanide
<u>7.16</u>	Arsenic	<u>8.49</u>	pH (units)
<u>44.4</u>	Barium	<u>&lt;2.0</u>	Petroleum Hydrocarbons
<u>&lt; 1.0</u>	Beryllium		
<u>&lt; 2.5</u>	Cadmium		
<u>3.9</u>	Chromium (total)		
	*Chromium (hexavalent)		
<u>2.9</u>	Cobalt		
<u>11.4</u>	Copper		
<u>&lt; 2.5</u>	Lead		
<u>&lt; 0.1</u>	Mercury		
<u>3.3</u>	Molybdenum		
<u>4.4</u>	Nickel		
<u>&lt; 2.5</u>	Selenium		
<u>&lt; 2.5</u>	Silver		
<u>&lt; 2.5</u>	Thallium		
<u>9.2</u>	Vanadium		
<u>18.6</u>	Zinc		

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: <u>Gregg &amp; Associates</u>	Date Received: <u>10/12/84</u>
Sample I.D.: <u>B1-Background 10'</u>	Date Analyzed: <u>10/19 to 26/84</u>
Sample Matrix: <u>Soil</u>	Concentration: <u>Total (TTLC)</u>

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony	<u>&lt;0.2</u>	Cyanide
<u>7.76</u>	Arsenic	<u>8.61</u>	pH (units)
<u>36.4</u>	Barium	<u>2.7</u>	Petroleum Hydrocarbons
<u>&lt;1.0</u>	Beryllium		
<u>&lt;2.5</u>	Cadmium		
<u>5.3</u>	Chromium (total)		
<u>&lt;0.05</u>	*Chromium (hexavalent)		
<u>2.9</u>	Cobalt		
<u>42.4</u>	Copper		
<u>&lt;2.5</u>	Lead		
<u>&lt;0.1</u>	Mercury		
<u>3.4</u>	Molybdenum		
<u>4.4</u>	Nickel		
<u>&lt;2.5</u>	Selenium		
<u>&lt;2.5</u>	Silver		
<u>&lt;2.5</u>	Thallium		
<u>9.6</u>	Vanadium		
<u>35.5</u>	Zinc		

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.



DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & AssociatesDate Received: 10/12/84Sample I.D.: B1-Background 20'Date Analyzed: 10/19 to 26/84Sample Matrix: SoilConcentration: Total (TTLC)

(Circle One)  
mg/L or (mg/Kg)

<u>&lt; 2.5</u>	Antimony	<u>&lt; 0.2</u>	Cyanide
<u>12.3</u>	Arsenic	<u>8.22</u>	pH (units)
<u>91.9</u>	Barium	<u>&lt; 2.0</u>	Petroleum Hydrocarbons
<u>&lt; 1.0</u>	Beryllium		
<u>&lt; 2.5</u>	Cadmium		
<u>5.3</u>	Chromium (total)		
<u>&lt; 0.05</u>	*Chromium (hexavalent)		
<u>4.1</u>	Cobalt		
<u>10.7</u>	Copper		
<u>&lt; 2.5</u>	Lead		
<u>&lt; 0.1</u>	Mercury		
<u>4.2</u>	Molybdenum		
<u>5.4</u>	Nickel		
<u>&lt; 2.5</u>	Selenium		
<u>&lt; 2.5</u>	Silver		
<u>&lt; 2.5</u>	Thallium		
<u>14.3</u>	Vanadium		
<u>25.5</u>	Zinc		

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10/12/84  
 Sample I.D.: B1-Background 30' Date Analyzed: 10/19 to 26/84  
 Sample Matrix: Soil Concentration: Total (TTL)

(Circle One)  
 mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony	<u>&lt;0.2</u>	Cyanide
<u>19.6</u>	Arsenic	<u>7.77</u>	pH (units)
<u>164</u>	Barium	<u>&lt;2.0</u>	Petroleum Hydrocarbons
<u>&lt; 1.0</u>	Beryllium		
<u>&lt; 2.5</u>	Cadmium		
<u>21.8</u>	Chromium (total)		
<u>&lt; 0.05</u>	*Chromium (hexavalent)		
<u>14.0</u>	Cobalt		
<u>26.6</u>	Copper		
<u>3.42</u>	Lead		
<u>&lt; 0.1</u>	Mercury		
<u>12.4</u>	Molybdenum		
<u>18.5</u>	Nickel		
<u>&lt; 2.5</u>	Selenium		
<u>&lt; 2.5</u>	Silver		
<u>&lt; 2.5</u>	Thallium		
<u>47.4</u>	Vanadium		
<u>65.9</u>	Zinc		

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10/12/84  
 Sample I.D.: B1-Background 40' Date Analyzed: 10/19 to 26/84  
 Sample Matrix: Soil Concentration: Total (TTLC)

(Circle One)

mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony	<u>&lt; 0.2</u>	Cyanide
<u>13.8</u>	Arsenic	<u>8.37</u>	pH (units)
<u>75.1</u>	Barium	<u>&lt; 2.0</u>	Petroleum Hydrocarbons
<u>&lt; 1.0</u>	Beryllium		
<u>&lt; 2.5</u>	Cadmium		
<u>5.9</u>	Chromium (total)		
<u>&lt; 0.05</u>	*Chromium (hexavalent)		
<u>4.8</u>	Cobalt		
<u>8.5</u>	Copper		
<u>&lt; 2.5</u>	Lead		
<u>&lt; 0.1</u>	Mercury		
<u>5.2</u>	Molybdenum		
<u>5.3</u>	Nickel		
<u>&lt; 2.5</u>	Selenium		
<u>&lt; 2.5</u>	Silver		
<u>&lt; 2.5</u>	Thallium		
<u>16.7</u>	Vanadium		
<u>27.9</u>	Zinc		

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.



I.D. 01-001596

November 8, 1984

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

Attention: Dean Gregg

Re: Lockheed project; #84-106

On October 23, 1984 Analytical Technologies, Inc. received a ninth shipment containing forty-eight (48) soil samples, collected from the Lockheed project site. The samples were analyzed for cadmium, chromium, pH, petroleum hydrocarbons and volatile organics.

Described below is the disposition of each sample.

- 1) These samples were analyzed for volatile organics using GC/MS (EPA Method 624).

- ✓ Composite of B1-1 5', 10', 20', 30'
- ✓ Composite of B1-2 5', 10', 20', 30'
- ✓ Composite of B1-3 5', 10', 20', 30'
- ✓ Composite of B1-4 5', 10', 20', 30'
- ✓ Composite of B1-5 5', 20', 30'
- ✓ Composite of B1-6 5', 10', 20', 30'
- ✓ Composite of B1-7 5', 10', 20', 30'
- ✓ Composite of B1-8 5', 10', 20', 30'
- ✓ Composite of B1-9 5', 10', 20', 30'
- ✓ Composite of B6-T-B1 11', 19', 28', 35'

- 2) These samples were analyzed for soil pH, petroleum hydrocarbons (EPA 418.1) and cadmium and chromium using inductively coupled plasma.

✓ Composite of B1-1	✓ Composite of B1-6
✓ Composite of B1-2	✓ Composite of B1-7
✓ Composite of B1-3	✓ Composite of B1-8
✓ Composite of B1-4	✓ Composite of B1-9
✓ Composite of B1-5	

I.D. 01-001596  
Gregg & Associates, Inc.  
Page 2

- 3) These additional soils were also analyzed for petroleum hydrocarbons (EPA Method 418.1)

B1-F1-MV1 20'  
B1-F4-MV1 12'  
B1-F4-MV2 12'

All analyses were in accordance with EPA methods or equivalent. Attached are the test results. If you have any questions, please call.

*Carolyn A. Sites*

Carolyn A. Sites  
Data Manager

Reviewed by

*Mark King*  
Mark King  
Laboratory Manager

CAS:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.



I.D. 01-001611

November 12, 1984

RECEIVED NOV 15 1984

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

Attention: Dean Gregg

Re: Lockheed Project; #84-106

On October 25, 1984 Analytical Technologies, Inc. received the tenth shipment containing thirty-three (33) soil samples, collected from the Lockheed project site. The samples were analyzed for chromium, pH, petroleum hydrocarbons, oil & grease and volatile organics.

Outlined below is the disposition of each sample.

- 1) These samples were analyzed for soil pH and chromium.


✓ A1-A-SL6 5'	✓ A1-A-SL2 5'
✓ A1-A-SL6 10'	✓ A1-A-SL2 10'
✓ A1-A-SL7 5'	✓ A1-A-SL3 5'
✓ A1-A-SL7 10'	✓ A1-A-SL3 10'
✓ A1-A-SL8 6'	✓ A1-A-SL4 5'
✓ A1-A-SL8 10'	✓ A1-A-SL4 10'
✓ A1-A-SL9 5'	✓ A1-A-SL5 5'
✓ A1-A-SL9 10'	✓ A1-A-SL5 10'
✓ A1-A-SL10 5'	✓ A1-A-SL11 5'
✓ A1-A-SL10 10'	✓ A1-A-SL11 10'
✓ A1-A-LSY 1 5.5'	
✓ A1-A-LSY 1 10'	

- 2) These two (2) samples were analyzed for volatile organics using GC/MS (EPA Method 8240).

~~B1-AA-B1~~ B1-AA-B1  
✓ Composite of B1-AA-B1 6', 13', 18', 30', 40'  
✓ Composite of B1-F14-MV1 12', 12', 25', 40'

- 3) These samples were analyzed for petroleum hydrocarbons (EPA Method 418.1) and/or oil and grease (EPA Method 413.2) using IR.

~~B1-AA-B1~~ B1-AA-B1  
✓ B1-AA-B1 6'  
✓ B1-AA-B1 13'  
~~B1-AA-B1~~ B1-AA-B1  
✓ B1-F14-MV2 12'  
✓ B1-F14-MV1 12'



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Gregg & Associates, Inc.  
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B-1-AA-B1  
B1-AA-B1 18'  
B1-AA-B1 30'  
B1-AA-B1 40'  
B1-F2-MV1 5'  
B1-F1-MV2 17'  
B1-F14-MV1 25'  
B1-F14-MV1 40'

All analyses were in accordance with EPA methods or equivalent.  
Enclosed are the test results.

If you have any questions, please call.

*Carolyn A. Sites*  
Carolyn A. Sites  
Data Manager

Reviewed by

*Mark King*  
Mark King  
Laboratory Manager

CAS:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

I.D. 01-001611

## DATA SUMMARY

Gregg &amp; Associates

Received: 10-25-84

Analyzed: 10-30 to 11-7-84

Sample I.D.	Petroleum Hydrocarbons (mg/kg)	Oil & Grease (mg/kg)
B-1-AA-B1	<del>B1-A1-B1</del> 6'	<2
	<del>B1-A2-B1</del> 13'	2
	<del>B1-A3-B1</del> 18'	<2
	<del>B1-A4-B1</del> 30'	<2
	<del>B1-A5-B1</del> 40'	<2
B1-F2-MV1	<2	NR
B1-F1-MV2 17'	<2	NR
B1-F14-MV2 17'	16	16
B1-F14-MV1 12'	130	130
B1-F14-MV1 25'	2	<2
B1-F14-MV1 40'	<2	<2

NR = Not a Requested test for this sample.



RESULTS OF EPA QUALITY CONTROL SAMPLES  
WP 1278, VOLATILE ORGANICS

PARAMETER	X	EPA DATA <sup>1</sup>		SAMPLE RESULTS <sup>2</sup> 11-6-84
		S	95% C.I. <sup>3</sup>	
1,2-dichloroethane <sup>(13)</sup>	13.7	2.5	8.7-18.7	10.7
Chloroform <sup>(12)</sup>	68.3	14.9	38.5-98.1	61.2
1,1,1-trichloroethane <sup>(14)</sup>	8.1	4.2	MDL-16.5	8.1
1,1,2-trichloroethene <sup>(20)</sup>	10.7	8.1	MDL-26.8	9.2
Carbon Tetrachloride <sup>(15)</sup>	13.2	3.7	5.8-20.6	14.7
1,1,2,2-Tetrachloroethene <sup>(26)</sup>	9.6	2.4	4.8-14.4	8.6
Bromodichloromethane <sup>(16)</sup>	11.2	2.7	5.8-16.6	12.5
Dibromochloromethane <sup>(24)</sup>	9.2	2.7	4.0-14.4	10.8
Bromoform <sup>(25)</sup>	14.0	3.0	8.0-20.0	16.2

<sup>1</sup> Results of EPA Interlaboratory comparison Studies.<sup>2</sup> Results of QC Materials Run Concurrently with Samples.<sup>3</sup> 95 Percent Confidence Interval.

## VOLATILE ORGANIC ANALYSIS (VOA)

## DATA SUMMARY

Client: Gregg & AssociatesSample I.D.: 1611-Composite Bi-FiSample Matrix: SoilDate Collected: 10-24-84Method No.: DIRECT SPARGEDate Received by Lab: 10-25-84Date Analyzed: 11-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 12.5	Bromomethane	< 11.0	Benzene
< 12.5	Chloromethane	< 15.0	Chlorobenzene
< 5.5	Bromodichloromethane	< 15.0	Toluene
< 7.8	Dibromochloromethane	< 18.0	Ethylbenzene
< 7.0	Methylene Chloride	< 12.5	Acrolein
< 11.8	Bromoform	< 12.5	Acrylonitrile
< 4.0	Chloroform	< 25.0	Methyl Ethyl Ketone
< 7.0	Carbon Tetrachloride	< 25.0	Acetone
< 12.5	Trichlorofluoromethane		
< 12.5	Chloroethane		
< 7.0	1,1-Dichloroethane		
< 7.0	1,2-Dichloroethane		
< 9.5	1,1,1-Trichloroethane		
< 12.5	1,1,2-Trichloroethane		
< 17.3	1,1,2,2-Tetrachloroethane		
< 12.5	Vinyl Chloride		
< 7.0	1,1-Dichloroethene		
< 4.0	Trans-1,2-Dichloroethene		
< 4.8	Trichloroethene		
< 10.3	Tetrachloroethene		
< 12.5	2-Chloroethylvinylether		
< 15.0	1,2-Dichloropropane		
< 12.5	CIS - 1,3-Dichloropropene		
< 12.5	Trans-1,3-Dichloropropene		

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VOLATILE ORGANIC ANALYSIS (VOA)  
DATA SUMMARY

B-1-AA-B1

Client: Gregg & AssociatesSample I.D.: 1611 - Composite B1-~~A~~-B1Sample Matrix: SoilDate Collected: 10-22-84Method No.: DIRECT SPARGEDate Received by Lab: 10-25-84Date Analyzed: 11-6-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 12.5	Bromomethane	< 11.0	Benzene
< 12.5	Chloromethane	< 15.0	Chlorobenzene
< 5.5	Bromodichloromethane	< 15.0	Toluene
< 7.8	Dibromochloromethane	< 18.0	Ethylbenzene
< 7.0	Methylene Chloride	< 12.5	Acrolein
< 11.8	Bromoform	< 12.5	Acrylonitrile
< 4.0	Chloroform	< 25.0	Methyl Ethyl Ketone
< 7.0	Carbon Tetrachloride	< 25.0	Acetone
< 12.5	Trichlorofluoromethane		
< 12.5	Chloroethane		
< 7.0	1,1-Dichloroethane		
< 7.0	1,2-Dichloroethane		
< 9.5	1,1,1-Trichloroethane		
< 12.5	1,1,2-Trichloroethane		
< 17.3	1,1,2,2-Tetrachloroethane		
< 12.5	Vinyl Chloride		
< 7.0	1,1-Dichloroethene		
< 4.0	Trans-1,2-Dichloroethene		
< 4.8	Trichloroethene		
< 10.3	Tetrachloroethene		
< 12.5	2-Chloroethylvinylether		
< 15.0	1,2-Dichloropropane		
< 12.5	CIS - 1,3-Dichloropropene		
< 12.5	Trans-1,3-Dichloropropene		



I.D. 01-001621

December 13, 1984

Gregg & Associates  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

RECEIVED DEC 17 1984

Attention: Dean Gregg

Re: Lockheed project; # 84-106

On October 29, 1984 Analytical Technologies, Inc. received twenty-two (22) soil samples collected from the Lockheed project site. The samples were analyzed for pH, volatile organics, petroleum hydrocarbons, oil and grease and the CAM list of metals.

Described below is the disposition of each sample.

- 1) These samples were analyzed for volatile organics in accordance with EPA method 8240.

Composite of B1-AE-B2 17', 23', 30', 40'

Composite of B1-AA-B2 13', 18', 30', 40' — B-1-AA-B2

Composite of B1-AE-B1 17', 23', 30', 40'

Composite of B1-C-B1 17', 22', 30', 40'

B1-AI-S11 10'

- 2) These samples were analyzed for the CAM list of metals and pH.

B1-AI-S11 10'

Composite of B1-C-B1 17', 22', 30', 40'

- 3) These samples were analyzed for petroleum hydrocarbons and/or oil and grease, in accordance with EPA methods 418.1 and 413.2, respectively.

B1-AE-B2 17'

B1-AE-B2 23'

B1-AE-B2 30'

B1-AE-B2 40'

B1-AA-B2 13'

B1-AA-B2 18'

B1-AA-B2 30'

B1-AA-B2 40'

B1-AE-B1 17'

B1-AE-B1 23'

B1-AE-B1 30'

B1-AE-B1 40'

Composite of B1-C-B1 17', 22', 30', 40'

B-1-AA-B2

- 4) These samples have been archived.

B1-AE-B2 5'


B1-AI-S11 5'

B1-AA-B2 5'

B1-AE-B1 5'

B1-C-B1 8'

B-1-AA-B2



Page 2  
I.D. 01-001621  
Gregg & Associates

All samples were tested in accordance with EPA methods or equivalent.  
Enclosed are the test results and quality control data.

If you have any questions, please call.

  
Carolyn A. Sites  
Data Manager

Reviewed by   
Mark King  
Laboratory Manager

CAS:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30)  
days from the date of this report, unless we are informed  
otherwise.

VOLATILE ORGANIC ANALYSIS (VOA)  
DATA SUMMARYClient: Gregg & Associates  
Sample Matrix: Soil  
Method No.: DIRECT SPARGESample I.D.: 1621 Composite B1-AE-B2  
Date Collected: 10-26-84  
Date Received by Lab: 10-29-84  
Date Analyzed: 11-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 12.5	Bromomethane	< 11.0	Benzene
< 12.5	Chloromethane	< 15.0	Chlorobenzene
< 5.5	Bromodichloromethane	< 15.0	Toluene
< 7.8	Dibromochloromethane	< 18.0	Ethylbenzene
< 7.0	Methylene Chloride	< 12.5	Acrolein
< 11.8	Bromoform	< 12.5	Acrylonitrile
< 4.0	Chloroform	< 25.0	Methyl Ethyl Ketone
< 7.0	Carbon Tetrachloride	< 25.0	Acetone
< 12.5	Trichlorofluoromethane		
< 12.5	Chloroethane		
< 7.0	1,1-Dichloroethane		
< 7.0	1,2-Dichloroethane		
< 9.5	1,1,1-Trichloroethane		
< 12.5	1,1,2-Trichloroethane		
< 17.3	1,1,2,2-Tetrachloroethane		
< 12.5	Vinyl Chloride		
< 7.0	1,1-Dichloroethene		
< 4.0	Trans-1,2-Dichloroethene		
< 4.8	Trichloroethene		
< 10.3	Tetrachloroethene		
< 12.5	2-Chloroethylvinylether		
< 15.0	1,2-Dichloropropane		
< 12.5	CIS - 1,3-Dichloropropene		
< 12.5	Trans-1,3-Dichloropropene		

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VOLATILE ORGANIC ANALYSIS (VOA)  
DATA SUMMARY

B-1-AA-B2

Client: Gregg & Associates  
Sample Matrix: Soil  
Method No.: DIRECT SPARGESample I.D.: 1621 Composite B1-AA-B2  
Date Collected: 10-26-84  
Date Received by Lab: 10-29-84  
Date Analyzed: 11-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 12.5	Bromomethane	< 11.0	Benzene
< 12.5	Chloromethane	< 15.0	Chlorobenzene
< 5.5	Bromodichloromethane	< 15.0	Toluene
< 7.8	Dibromochloromethane	< 18.0	Ethylbenzene
< 7.0	Methylene Chloride	< 12.5	Acrolein
< 11.8	Bromoform	< 12.5	Acrylonitrile
< 4.0	Chloroform	< 25.0	Methyl Ethyl Ketone
< 7.0	Carbon Tetrachloride	< 25.0	Acetone
< 12.5	Trichlorofluoromethane		
< 12.5	Chloroethane		
< 7.0	1,1-Dichloroethane		
< 7.0	1,2-Dichloroethane		
< 9.5	1,1,1-Trichloroethane		
< 12.5	1,1,2-Trichloroethane		
< 17.3	1,1,2,2-Tetrachloroethane		
< 12.5	Vinyl Chloride		
< 7.0	1,1-Dichloroethene		
< 4.0	Trans-1,2-Dichloroethene		
< 4.8	Trichloroethene		
< 10.3	Tetrachloroethene		
< 12.5	2-Chloroethylvinylether		
< 15.0	1,2-Dichloropropane		
< 12.5	CIS - 1,3-Dichloropropene		
< 12.5	Trans-1,3-Dichloropropene		

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VOLATILE ORGANIC ANALYSIS (VOA)  
DATA SUMMARY

DUPLICATE

B-1-AA-B

Client: Gregg & Associates  
Sample Matrix: Soil  
Method No.: DIRECT SPARGE

Sample I.D.: 1621 Composite B1-AA-B2  
Date Collected: 10-26-84  
Date Received by Lab: 10-29-84  
Date Analyzed: 11-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 12.5	Bromomethane	< 11.0	Benzene
< 12.5	Chloromethane	< 15.0	Chlorobenzene
< 5.5	Bromodichloromethane	< 15.0	Toluene
< 7.8	Dibromochloromethane	< 18.0	Ethylbenzene
< 7.0	Methylene Chloride	< 12.5	Acrolein
< 11.8	Bromoform	< 12.5	Acrylonitrile
< 4.0	Chloroform	< 25.0	Methyl Ethyl Ketone
< 7.0	Carbon Tetrachloride	< 25.0	Acetone
< 12.5	Trichlorofluoromethane		
< 12.5	Chloroethane		
< 7.0	1,1-Dichloroethane		
< 7.0	1,2-Dichloroethane		
< 9.5	1,1,1-Trichloroethane		
< 12.5	1,1,2-Trichloroethane		
< 17.3	1,1,2,2-Tetrachloroethane		
< 12.5	Vinyl Chloride		
< 7.0	1,1-Dichloroethene		
< 4.0	Trans-1,2-Dichloroethene		
< 4.8	Trichloroethene		
< 10.3	Tetrachloroethene		
< 12.5	2-Chloroethylvinylether		
< 15.0	1,2-Dichloropropane		
< 12.5	CIS - 1,3-Dichloropropene		
< 12.5	Trans-1,3-Dichloropropene		



VOLATILE ORGANIC ANALYSIS (VOA)  
DATA SUMMARY

Client: Gregg & Associates  
Sample Matrix: Soil  
Method No.: DIRECT SPARGE

Sample I.D.: 1621 Composite B1-AE-B1  
Date Collected: 10-26-84  
Date Received by Lab: 10-29-84  
Date Analyzed: 11-6-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 12.5	Bromomethane	< 11.0	Benzene
< 12.5	Chloromethane	< 15.0	Chlorobenzene
< 5.5	Bromodichloromethane	< 15.0	Toluene
< 7.8	Dibromochloromethane	< 18.0	Ethylbenzene
< 7.0	Methylene Chloride	< 12.5	Acrolein
< 11.8	Bromoform	< 12.5	Acrylonitrile
< 4.0	Chloroform	< 25.0	Methyl Ethyl Ketone
< 7.0	Carbon Tetrachloride	< 25.0	Acetone
< 12.5	Trichlorofluoromethane		
< 12.5	Chloroethane		
< 7.0	1,1-Dichloroethane		
< 7.0	1,2-Dichloroethane		
< 9.5	1,1,1-Trichloroethane		
< 12.5	1,1,2-Trichloroethane		
< 17.3	1,1,2,2-Tetrachloroethane		
< 12.5	Vinyl Chloride		
< 7.0	1,1-Dichloroethene		
< 4.0	Trans-1,2-Dichloroethene		
< 4.8	Trichloroethene		
< 10.3	Tetrachloroethene		
< 12.5	2-Chloroethylvinylether		
< 15.0	1,2-Dichloropropane		
< 12.5	CIS - 1,3-Dichloropropene		
< 12.5	Trans-1,3-Dichloropropene		

## VOLATILE ORGANIC ANALYSIS (VOA)

## DATA SUMMARY

Client: Gregg & AssociatesSample I.D.: 1621 Composite B1-C-B1Sample Matrix: SoilDate Collected: 10-26-84Method No.: DIRECT SPARGEDate Received by Lab: 10-29-84Date Analyzed: 11-6-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 12.5	Bromomethane	< 11.0	Benzene
< 12.5	Chloromethane	< 15.0	Chlorobenzene
< 5.5	Bromodichloromethane	< 15.0	Toluene
< 7.8	Dibromochloromethane	< 18.0	Ethylbenzene
< 7.0	Methylene Chloride	< 12.5	Acrolein
< 11.8	Bromoform	< 12.5	Acrylonitrile
< 4.0	Chloroform	< 25.0	Methyl Ethyl Ketone
< 7.0	Carbon Tetrachloride	295	Acetone
< 12.5	Trichlorofluoromethane		
< 12.5	Chloroethane		
< 7.0	1,1-Dichloroethane		
< 7.0	1,2-Dichloroethane		
< 9.5	1,1,1-Trichloroethane		
< 12.5	1,1,2-Trichloroethane		
< 17.3	1,1,2,2-Tetrachloroethane		
< 12.5	Vinyl Chloride		
< 7.0	1,1-Dichloroethene		
< 4.0	Trans-1,2-Dichloroethene		
< 4.8	Trichloroethene		
< 10.3	Tetrachloroethene		
< 12.5	2-Chloroethylvinylether		
< 15.0	1,2-Dichloropropane		
< 12.5	CIS - 1,3-Dichloropropene		
< 12.5	Trans-1,3-Dichloropropene		

VOLATILE ORGANIC ANALYSIS (VOA)  
DATA SUMMARY

Client: Gregg & Associates  
Sample Matrix: Soil  
Method No.: DIRECT SPARGE

Sample I.D.: 1621 Composite B1-A1-S11  
Date Collected: 10-26-84  
Date Received by Lab: 10-29-84  
Date Analyzed: 11-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>&lt; 12.5</u>	Bromomethane	<u>&lt; 11.0</u>	Benzene
<u>&lt; 12.5</u>	Chloromethane	<u>&lt; 15.0</u>	Chlorobenzene
<u>&lt; 5.5</u>	Bromodichloromethane	<u>&lt; 15.0</u>	Toluene
<u>&lt; 7.8</u>	Dibromochloromethane	<u>&lt; 18.0</u>	Ethylbenzene
<u>&lt; 7.0</u>	Methylene Chloride	<u>&lt; 12.5</u>	Acrolein
<u>&lt; 11.8</u>	Bromoform	<u>&lt; 12.5</u>	Acrylonitrile
<u>&lt; 4.0</u>	Chloroform	<u>&lt; 25.0</u>	Methyl Ethyl Ketone
<u>&lt; 7.0</u>	Carbon Tetrachloride	<u>196</u>	Acetone
<u>&lt; 12.5</u>	Trichlorofluoromethane		
<u>&lt; 12.5</u>	Chloroethane		
<u>&lt; 7.0</u>	1,1-Dichloroethane		
<u>&lt; 7.0</u>	1,2-Dichloroethane		
<u>&lt; 9.5</u>	1,1,1-Trichloroethane		
<u>&lt; 12.5</u>	1,1,2-Trichloroethane		
<u>&lt; 17.3</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 12.5</u>	Vinyl Chloride		
<u>&lt; 7.0</u>	1,1-Dichloroethene		
<u>&lt; 4.0</u>	Trans-1,2-Dichloroethene		
<u>&lt; 4.8</u>	Trichloroethene		
<u>&lt; 10.3</u>	Tetrachloroethene		
<u>&lt; 12.5</u>	2-Chloroethylvinylether		
<u>&lt; 15.0</u>	1,2-Dichloropropane		
<u>&lt; 12.5</u>	CIS - 1,3-Dichloropropene		
<u>&lt; 12.5</u>	Trans-1,3-Dichloropropene		

RESULTS OF EPA QUALITY CONTROL SAMPLES  
WP 1278, VOLATILE ORGANICS

PARAMETER	X	EPA DATA <sup>1</sup>		SAMPLE RESULTS <sup>2</sup> 11-06-84
		S	95% C.I. <sup>3</sup>	
1,2-dichloroethane <sup>(13)</sup>	13.7	2.5	8.7-18.7	10.7
Chloroform <sup>(12)</sup>	68.3	14.9	38.5-98.1	61.2
1,1,1-trichloroethane <sup>(14)</sup>	8.1	4.2	MDL-16.5	8.1
1,1,2-trichloroethene <sup>(20)</sup>	10.7	8.1	MDL-26.8	9.2
Carbon Tetrachloride <sup>(15)</sup>	13.2	3.7	5.8-20.6	14.7
1,1,2,2-Tetrachloroethene <sup>(26)</sup>	9.6	2.4	4.8-14.4	8.6
Bromodichloromethane <sup>(16)</sup>	11.2	2.7	5.8-16.6	12.5
Dibromochloromethane <sup>(24)</sup>	9.2	2.7	4.0-14.4	10.8
Bromoform <sup>(25)</sup>	14.0	3.0	8.0-20.0	16.2

<sup>1</sup> Results of EPA Interlaboratory comparison Studies.

<sup>2</sup> Results of QC Materials Run Concurrently with Samples.

<sup>3</sup> 95 Percent Confidence Interval.

DATA SUMMARY

Gregg & Associates  
Lockheed Project

Received: 10-29-84  
Analyzed: 11-12/13-84

Oil and Grease (EPA 413.2)  
(mg/kg)

B1-AE-B1	17'	4	
B1-AE-B1	23'	2	
B1-AE-B1	30'	<2	
B1-AE-B1	40'	<2	
B1-AE-B2	17'	39.3	
B1-AE-B2	23'	7.1	
B1-AE-B2	30'	36.4	
B1-AE-B2	40'	39.8	
B-1-AA-B2	B1-AA-B2	13'	9.2
	B1-AA-B2	18'	22
	B1-AA-B2	30'	8
	B1-AA-B2	40'	<2

Petroleum Hydrocarbons, total (EPA 418.1)  
(mg/kg)

B1-C-B1 Composite

<2.0

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10-29-84  
Sample I.D.: 1621 B1-AI-S11 Date Analyzed: 11-6- to 10-84  
Sample Matrix: Soil Concentration: Total (TTLC)

(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>5.9</u>	Arsenic
<u>48.2</u>	Barium
<u>1.1</u>	Beryllium
<u>&lt;0.5</u>	Cadmium
<u>4.4</u>	Chromium (total)
	*Chromium (hexavalent)
<u>4.0</u>	Cobalt
<u>5.1</u>	Copper
<u>&lt;2.5</u>	Lead
<u>&lt;0.1</u>	Mercury
<u>&lt;1.0</u>	Molybdenum
<u>3.2</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>9.9</u>	Vanadium
<u>16.0</u>	Zinc
<u>8.54</u>	pH (units)

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

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DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10-29-84  
Sample I.D.: 1621 B1-C-B1 Composite Date Analyzed: 11-6 to 10-84  
Sample Matrix: Soil Concentration: Total (TTLIC)

(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>11.2</u>	Arsenic
<u>57.6</u>	Barium
<u>&lt;1.0</u>	Beryllium
<u>&lt;0.5</u>	Cadmium
<u>6.8</u>	Chromium (total)
<u>&lt;0.5</u>	*Chromium (hexavalent)
<u>6.5</u>	Cobalt
<u>12.0</u>	Copper
<u>&lt;2.5</u>	Lead
<u>&lt;0.1</u>	Mercury
<u>&lt;1.0</u>	Molybdenum
<u>5.7</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>18.5</u>	Vanadium
<u>23.9</u>	Zinc
<u>8.07</u>	pH (units)

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

## QUALITY CONTROL DATA

DUPLICATES					MATRIX SPIKES			
Parameter	Sample I.D.	1st Result	2nd Result	R.P.D.	Sample I.D.	Result (ug)	True (ug)	% Recovery
Antimony	B1-AI-S11	<2.5	<2.5	-	B1-AI-S11	0.28	0.25	112
Arsenic	B1-AI-S11	5.9	5.9	0	B1-AI-S11	.0029	.03	97.0
Barium	B1-AI-S11	38.1	58.2	49.8	B1-AI-S11	-	-	95.0
Beryllium	B1-AI-S11	<1.0	1.1	-	B1-AI-S11	-	-	89.0
Cadmium	B1-AI-S11	<0.5	<0.5	-	B1-AI-S11	3.98	4.97	80.0
Chromium	B1-AI-S11	4.2	4.5	6.8	B1-AI-S11	-	-	95.0
Cobalt	B1-AI-S11	3.8	4.2	10.0	B1-AI-S11	-	-	91.0
Copper	B1-AI-S11	4.8	5.4	8.0	B1-AI-S11	-	-	105
Lead	B1-AI-S11	<2.5	<2.5	-	B1-AI-S11	0.37	0.50	74.0
Mercury	B1-AI-S11	<0.1	<0.1	-	other	0.37	0.50	74.0
Molybdenum	B1-AI-S11	<1.0	<1.0	-	B1-AI-S11	-	-	83.0
Nickel	B1-AI-S11	3.0	3.3	9.4	B1-AI-S11	-	-	97.0
Selenium	B1-AI-S11	<2.5	<2.5	-	B1-AI-S11	.02	.03	67.0
Silver	B1-AI-S11	<2.5	<2.5	-	B1-AI-S11	-	-	32.0
Thallium	B1-AI-S11	<2.5	<2.5	-				
Vanadium	B1-AI-S11	9.5	10.2	7.1	B1-AI-S11	-	-	97.0
Zinc	B1-AI-S11	11.8	20.2	52.5	B1-AI-S11	-	-	105

R.P.D. = Relative Percent Difference





I.D. 01-001630

December 12, 1984

Gregg & Associates, Inc.  
12351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

RECEIVED DEC 14 1984

Project Name: Lockheed

Project Number: 84-106

On October 31, 1984 Analytical Technologies, Inc. received sixteen (16) soil samples collected from the Lockheed project site. Oil and grease, and petroleum hydrocarbons were analyzed for using infrared spectrophotometry, in accordance with EPA Method 418.1. Volatile organics, pH, cyanide, and California Assesment Manual (CAM) metals were analyzed by EPA methods or equivalent.

Described below is the disposition of each sample.

- 1) These samples were composited and analyzed for pH, volatile organics, CAM metals, and cyanide.

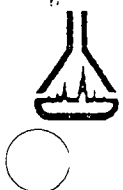
B1-2I-B1 15' 6"  
B1-2I-B1 20' 6"  
B1-2I-B1 30' 6"  
B1-2I-B1 40' 6"

- 2) These samples were individually analyzed for volatile organics, and oil and grease; and composited for analyses of CAM metals.

B1-AM-B2 16' 6"  
B1-AM-B2 23' 6"  
B1-AM-B2 30' 6"  
B1-AM-B2 40' 6"

- 3) These samples were individually analyzed for volatile organics, petroleum hydrocarbons, and CAM metals.

B1-J-B1 5' 6"  
B1-J-B1 10' 6"  
B1-J-B1 15' 6"  
B1-J-B1 20' 6"  
B1-J-B1 30' 6"  
B1-J-B1 40' 6"



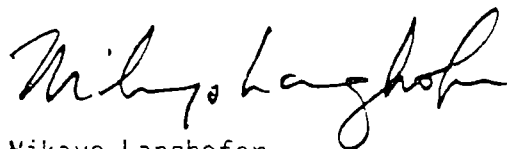
I.D. 01-001630  
Gregg & Associates  
Page 2

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4) These samples were not analyzed, and are being held.


B1-2I-B1 7' 6"  
B1-AM-B2 7' 6"

Attached are the test results.



Mikayo Langhofer  
Technical Associate

Reviewed by



Mark King  
Laboratory Manager

ML:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10-31-84  
Sample I.D.: B1-21-B1 Composite Date Analyzed: 11-8 thru 29-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)

mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>15.5</u>	Arsenic
<u>81.6</u>	Barium
<u>&lt; 1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>10.7</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>8.3</u>	Cobalt
<u>15.9</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>&lt; 1.0</u>	Molybdenum
<u>9.2</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>26.7</u>	Vanadium
<u>38.5</u>	Zinc
<u>&lt; 0.2</u>	Cyanide
<u>6.48</u>	pH (units)

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10-31-84  
Sample I.D.: B1-AM-B2 Composite Date Analyzed: 11-8 thru 29-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or (mg/Kg)

<u>&lt; 2.5</u>	Antimony
<u>23.7</u>	Arsenic
<u>94.5</u>	Barium
<u>1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>12.1</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>9.4</u>	Cobalt
<u>15.2</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>&lt; 1.0</u>	Molybdenum
<u>10.3</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>30.7</u>	Vanadium
<u>36.2</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

Gregg &amp; Associates

I.D. 01-001630

DATA SHEET

<u>Sample</u>	<u>Oil and Grease (mg/kg)</u>
B1-AM-B2 16' 6"	<2
B1-AM-B2 23' 6"	7
B1-AM-B2 30' 6"	<2
B1-AM-B2 40' 6"	<2

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10-31-84  
Sample I.D.: B1-J-B1 5'6" Date Analyzed: 11-8 thru 29-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or (mg/Kg)

<u>&lt; 2.5</u>	Antimony
<u>26.8</u>	Arsenic
<u>114</u>	Barium
<u>&lt; 1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>13.8</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>10.3</u>	Cobalt
<u>16.2</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>&lt; 1.0</u>	Molybdenum
<u>11.3</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>36</u>	Vanadium
<u>76.6</u>	Zinc
<u>21400</u>	Petroleum Hydrocarbons

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10-31-84  
Sample I.D.: B1-J-B1 10'6" Date Analyzed: 11-8 thru 29-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>25.9</u>	Arsenic
<u>125</u>	Barium
<u>1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>16.3</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>11.9</u>	Cobalt
<u>18.2</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>&lt; 1.0</u>	Molybdenum
<u>13.5</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>38.8</u>	Vanadium
<u>55.6</u>	Zinc
<u>6300</u>	Petroleum Hydrocarbons

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10-31-84  
Sample I.D.: B1-J-B1 15'6" Date Analyzed: 11-8 thru 29-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or (mg/Kg)

<u>&lt; 2.5</u>	Antimony
<u>16.4</u>	Arsenic
<u>86.7</u>	Barium
<u>&lt; 1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>11.2</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>8.0</u>	Cobalt
<u>14.4</u>	Copper
<u>6.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>&lt; 1.0</u>	Molybdenum
<u>7.7</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>28.4</u>	Vanadium
<u>35.6</u>	Zinc
<u>22000</u>	Petroleum Hydrocarbons

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.



DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10-31-84  
Sample I.D.: B1-J-B1 20'6" Date Analyzed: 11-8 thru 29-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>3.9</u>	Arsenic
<u>153</u>	Barium
<u>&lt; 1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>&lt; 0.5</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>7.4</u>	Cobalt
<u>4.4</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>&lt; 1.0</u>	Molybdenum
<u>9.8</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>0.9</u>	Vanadium
<u>48.7</u>	Zinc
<u>5</u>	Petroleum Hydrocarbons

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10-31-84  
Sample I.D.: B1-J-B1 30'6" Date Analyzed: 11-8 thru 29-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>27.4</u>	Arsenic
<u>91.6</u>	Barium
<u>&lt; 1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>12.5</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>9.8</u>	Cobalt
<u>20.6</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>&lt; 1.0</u>	Molybdenum
<u>10.2</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>31.8</u>	Vanadium
<u>39.6</u>	Zinc
<u>17700</u>	Petroleum Hydrocarbons

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 10-31-84  
Sample I.D.: B1-J-B1 40'6" Date Analyzed: 11-8 thru 29-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/kg

<u>&lt; 2.5</u>	Antimony
<u>53.2</u>	Arsenic
<u>119</u>	Barium
<u>1.5</u>	Beryllium
<u>2.3</u>	Cadmium
<u>19.4</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>12.8</u>	Cobalt
<u>22.7</u>	Copper
<u>3.4</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>&lt; 1.0</u>	Molybdenum
<u>16.0</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>46.3</u>	Vanadium
<u>49.7</u>	Zinc
<u>31100</u>	Petroleum Hydrocarbons

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

0838

Client: Gregg & Associates Date Collected: 10-30-84  
 Sample I.D.: B1-2I-B1 Composite Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>27.8</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>379</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>223</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>49.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>16.7</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 10-30-84  
 Sample I.D.: B1-AM-B2 16'6" Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>71.8</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>1140</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>769</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>209</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>82.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 10-30-84  
 Sample I.D.: B1-AM-B2 23'6" Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>6.4</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>0.5</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>3.2</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

NOTE: Sample arrived broken.  
 Volatile Organic compounds  
 may have been lost prior  
 to analysis.

I.D. 01-001630-9

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associate Date Collected: 10-30-84  
 Sample I.D.: B1-AM-B2 30'6" Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>57.9</u>	Benzene	<u>44.3</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>1050</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>639</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>46.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>42.2</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>43.3</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 10-30-84  
 Sample I.D.: B1-AM-B2 30'6" Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>55.0</u>	Benzene	<u>36.1</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>821</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>521</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>56.2</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>35.3</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>35.2</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 10-30-84  
 Sample I.D.: B1-AM-B2 40'6" Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>63.5</u>	Benzene	<u>48.6</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>1150</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>633</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>55.4</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>49.3</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>47.4</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 10-30-84  
 Sample I.D.: B1-J-B 5'6" Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>93.3</u>	Benzene	<u>503</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>955</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>777</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>63.5</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>71.8</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>5350</u>	trans-1,2-Dichloroethene		
<u>8.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>111</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 10-30-84  
Sample I.D.: B1-J-B1 5'6" Date Received by Lab: 10-31-84  
Sample Matrix: Soil Date Analyzed: 12-6-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
119	Benzene	549	Toluene
< 0.1	Bromodichloromethane	1110	1,1,1-Trichloroethane ✓
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	964	Trichloroethene ✓
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
46.0	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
93.0	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
5460	trans-1,2-Dichloroethene ✓		
9.3	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
107	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 10-30-84  
 Sample I.D.: B1-J-B1 10'6" Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
101	Benzene	412	Toluene
< 0.1	Bromodichloromethane	1310	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	959	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
75.2	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
80.4	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
4590	trans-1,2-Dichloroethene		
7.3	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
67.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 10-30-84  
 Sample I.D.: B1-J-B1 15'6" Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
84.7	Benzene	267	Toluene
< 0.1	Bromodichloromethane	984	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	647	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
29.2	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
51.8	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
1050	trans-1,2-Dichloroethene		
8.2	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 10-30-84  
 Sample I.D.: B1-J-B1 20'6" Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>37.3</u>	Benzene	<u>42.8</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>882</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>567</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>36.6</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>35.3</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>27.9</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 10-30-84  
 Sample I.D.: B1-J-B1 30'6" Date Received by Lab: 10-31-84  
 Sample Matrix: Soil Date Analyzed: 12-6-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>108</u>	Benzene	<u>535</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>1370</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>1410</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>12.0</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>111</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>5810</u>	trans-1,2-Dichloroethene		
<u>10.4</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>71.5</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

I.D. 01-001630-16

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: <u>Gregg &amp; Associates</u>	Date Collected: <u>10-30-84</u>
Sample I.D.: <u>B1-J-B1 40'6"</u>	Date Received by Lab: <u>10-31-84</u>
Sample Matrix: <u>Soil</u>	Date Analyzed: <u>12-6-84</u>

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>70.3</u>	Benzene	<u>430</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>1100</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>1310</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>108</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>43.5</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>5.8</u>	trans-1,2-Dichloroethene		
<u>1.7</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		





I.D. 01-001635

December 19, 1984

RECEIVED DEC 27 1984

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647


Project Name: CALAC

Project Number: 84106

On November 1, 1984 Analytical Technologies, Inc. received twelve (12) soil samples in brass tubes sampled on October 31, 1984, for analyses. Volatile organics were analyzed using gas chromatography in accordance with EPA Methods 8010 and 8020. Petroleum hydrocarbons were analyzed by removing an aliquot of soil from the tube, extracting it with freon, then analyzing the extract by infrared spectrophotometry, in accordance with EPA Method 418.1. Analyses of chromium, sulfate, and pH were done by EPA methods or equivalent.

Described below is the disposition of each sample.


- 1) These samples were composited and analyzed for volatile organics and petroleum hydrocarbons.
  - B1-ZE-B1 10' 6"
  - B1-ZE-B1 20' 6"
  - B1-ZE-B1 30' 6"
  - B1-ZE-B1 40' 6"
- 2) These samples were composited and analyzed for volatile organics and petroleum hydrocarbons.
  - B1-ZE-B2 12' 6"
  - B1-ZE-B2 17' 6"
  - B1-ZE-B2 30' 6"
  - B1-ZE-B2 40' 6"
- 3) This sample was analyzed for pH, sulfate, and chromium.
  - B1-U-SL1 12' 6"
- 4) These samples are being held.
  - B1-J-MV1 5' 3"



I.D. 01-001635  
Page 2  
Gregg & Associates

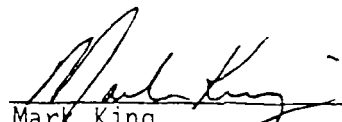
B1-J-MV1 12' 6"  
B1-ZE-B1 5' 6"

Attached are the test results.



Mikayo Langhofer  
Technical Associate


Reviewed by



Mark King  
Laboratory Manager

ML:mat

Attachments



NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

Gregg & AssociatesI.D. 01-001635DATA SHEET

<u>Sample</u>	<u>Petroleum Hydrocarbons, mg/kg</u>
B1-ZE-B1 Composite	<2
B1-ZE-B2 Composite	<2

<u>Sample</u>	<u>Parameter</u>	<u>mg/kg</u>
B1-U-SL1 12'6"	pH	8.19
	Sulfate (soluble)	<5.0
	Chromium (total)	6.0

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 10-31-84  
 Sample I.D.: B1-ZE-B1 Composite Date Received by Lab: 11-1-84  
 Sample Matrix: Soils Date Analyzed: \_\_\_\_\_

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
13.4	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

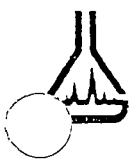
ND = Not Detected; Limit of Detection  
not determined.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 10-31-84  
 Sample I.D.: B1-ZE-B2 Composite Date Received by Lab: 11-1-84  
 Sample Matrix: Soils Date Analyzed: \_\_\_\_\_

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

ND = Not Detected; Limit of  
Detection not determined.



0838

Analytical Technologies, Inc.

Corporate Offices: 225 W. 30th Street National City, CA 92050 619 477-4173

I.D. 01-001643

RECEIVED DEC 18 1984

December 14, 1984

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

Project Name: CALAC

Project Number: 84-106

On November 2, 1984 Analytical Technologies, Inc. received fifteen (15) soil samples collected on November 1, 1984. Volatile organics were analyzed by gas chromatography in accordance with EPA Method 8010 and 8020. California Assessment Manual (CAM) metals were determined by acid digesting aliquots of soil and analyzing the digests by inductively coupled plasma and atomic absorption-graphite furnace. Analyses were in accordance with the EPA 200 series methods. Sulfate ion was analyzed using ion chromatography; cyanide and pH by EPA wet methods.

Described below is the disposition of each sample.

- 1) These samples were composited and analyzed for volatile organics, CAM metals, cyanide, and pH.

B1-ZN-B1 10' 6"  
B1-ZN-B1 15' 6"  
B1-ZN-B1 30' 6"  
B1-ZN-B1 40' 6"

- 2) These samples were composited and analyzed for pH, chromium, and sulfate.

B1-U-B1 13' 6"  
B1-U-B1 20' 6"  
B1-U-B1 30' 6"  
B1-U-B1 40' 6"

- 3) These samples were composited and analyzed for pH, chromium, and sulfate.

B1-U-B2 13'  
B1-U-B2 20'  
B1-U-B2 30'  
B1-U-B2 40'

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Gregg &amp; Associates

I.D. 01-001643

DATA SHEET

<u>Sample I.D.</u>	<u>pH (units)</u>	<u>Chromium (mg/kg)</u>	<u>Sulfate (mg/kg)</u>
B1-U-B1 Composite	8.10	6.8	<7.5
B1-U-B2 Composite	8.07	10.4	47.2

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 11-2-84  
Sample I.D.: B1-ZN-B1 Composite Date Analyzed: 11-7 thru 20-84  
Sample Matrix: Soil Concentration: Total (TTLC)

(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>12.8</u>	Arsenic
<u>75.8</u>	Barium
<u>&lt;1.0</u>	Beryllium
<u>&lt;0.5</u>	Cadmium
<u>11.9</u>	Chromium (total)
<u>&lt;0.5</u>	*Chromium (hexavalent)
<u>7.9</u>	Cobalt
<u>14.3</u>	Copper
<u>&lt;2.5</u>	Lead
<u>&lt;0.1</u>	Mercury
<u>&lt;1.0</u>	Molybdenum
<u>8.8</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>27.1</u>	Vanadium
<u>33.9</u>	Zinc
<u>&lt;0.2</u>	Cyanide
<u>7.11</u>	pH (units)

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.



VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-1-84  
 Sample I.D.: B1-ZN-B1 Composite Date Received by Lab: 11-2-84  
 Sample Matrix: Soil Date Analyzed: 11-7 thru 11-20-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>4.6</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		



I.D. 01-001652

RECEIVED JAN 4 1985

December 14, 1984

Gregg and Associates  
18351 Beach Blvd. Suite "L"  
Huntington Beach, CA 92647

Project Name: CALAC

Project No.: 84-106

On November 6, 1984 Analytical Technologies, Inc. received twelve (12) soil samples for analyses. Volatile organics were analyzed using gas chromatography, in accordance with EPA Methods 8010 and 8020. Petroleum hydrocarbons were analyzed by taking an aliquot of soil, extracting it with freon, and analyzing the extract using infrared spectrophotometry, in accordance with EPA Method 418.1. California Assessment Manual (CAM) metals were determined by acid digesting an aliquot of soil, and analyzing the digest using inductively coupled plasma and atomic absorption graphite furnace, in accordance with the EPA 200 series methods. Cyanide, pH, and surfactants were analyzed by EPA Methods or equivalent.

Described below is the disposition of each sample.

- 1) These samples were composited and analyzed for volatile organics, CAM metals, pH, and cyanide.

B1 - A1 - B2	10'
B1 - A1 - B2	22'
B1 - A1 - B2	30'
B1 - A1 - B2	40'

- 2) These samples were composited and analyzed for volatile organics, surfactants, and cyanide.

B1 - AH - B1	10'
B1 - AH - B1	15'
B1 - AH - B1	30'
B1 - AH - B1	40'

- 3) These samples were analyzed individually for volatile organics and petroleum hydrocarbons.

B6 - F21 - MV1	6" (12')
B6 - F21 - MV2	6" (14')

4) These samples were not tested and are being held

B1 - A1 - B2 5'  
B1 - AH - B1 5'

Attached are the test results.

*John W. Strand*

John W. Strand  
Support Services Manager

Reviewed by

*Mark King*  
Mark King  
Laboratory Manager

Attachments

ML/br

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

Gregg &amp; Associates

01-001652

DATA SHEET

<u>Sample</u>	<u>Parameter</u>	<u>Concentration (mg/kg)</u>
B1-A1-B <sup>1</sup> <sub>2</sub> Composite	pH	9.01
	Cyanide	<0.2
B1-AH-B1 Composite	Surfactants	<0.5
	Cyanide	<0.2
B6-F21-MV1	Petroleum Hydrocarbons	37
B6-F21-MV2	Petroleum Hydrocarbons	109

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

I.D. 01-001652 (2 thru 5)

Client: Gregg & AssociatesDate Collected: 11/5/84Sample I.D.: B1-A1-B2/compositeDate Received by Lab: 11/6/84Sample Matrix: SoilDate Analyzed: 12/7/84

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

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DATA SUMMARY  
OF CAM LISTED METALS

01-001652 (2 thru 5)

Client: Gregg & Associates Date Received: 11/6/84  
Sample I.D.: B1-A1-B2 (Composite) Date Analyzed: 11/14 thru 12/7/84  
Sample Matrix: Soil Concentration: Milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>15.2</u>	Arsenic
<u>77.1</u>	Barium
<u>&lt; 2.5</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>9.8</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>7.2</u>	Cobalt
<u>14.6</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>&lt; 2.5</u>	Molybdenum
<u>9.1</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>24.5</u>	Vanadium
<u>33.7</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

I.D. 01-001652  
(2-5)

Client: GREGG & ASSOCIATES Date Collected: 11/5/84  
Sample I.D.: B1-A1-B7 Composite Date Received by Lab: 11/6/84  
Sample Matrix: Soil Date Analyzed: 12/7/84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

I.D. 01-001652  
(7-10)

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 11/5/84  
 Sample I.D.: B1-AH-B1 Composite Date Received by Lab: 11/6/84  
 Sample Matrix: Soil Date Analyzed: 12/7/84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
5.7	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
73.3	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		





I.D. 01-001667.

January 3, 1985

Gregg and Associates  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

Attention: Ed Baquerizo

Project: CALAC

Project Number: 84-106

On November 9, 1984 Analytical Technologies, Inc. received twenty-one (21) soil samples for analyses. Volatile organics were analyzed using gas chromatography in accordance with EPA Methods 8010 and 8020. Petroleum hydrocarbons were analyzed by extracting soil aliquots with freon; then, analyzing the freon extract by infrared spectrophotometry, in accordance with EPA Method 418.1. California Assessment Manual (CAM) metals were analyzed by acid digesting soil aliquots, and analyzing the digests by inductively coupled plasma and atomic absorption graphite furnace, in accordance with the EPA 200 series methods. Fluoride and nitrate were analyzed using ion chromatography; pH was analyzed by EPA Method 9040.

Described below is the disposition of each sample.

- 1) These samples were composited and analyzed for volatile organics and petroleum hydrocarbons.

B6-S-SL1 0-5'      x comp  
B6-S-SL1 0-9'

- 2) These samples were composited and analyzed for volatile organics and chromium. They were analyzed individually for pH, fluoride, and nitrate.

A1-13-SL1 0-5'      x comp  
A1-13-SL1 7'-10'

- 3) These samples were composited and analyzed for volatile organics and chromium. They were analyzed individually for pH, fluoride, and nitrate.

A1-12-SL1 5'      x comp  
A1-12-SL1 0-11'

- 4) These samples were analyzed individually for volatile organics.

A-1-J Ring Sample 5'  
A-1-J Ring Sample 10'  
A-1-J Ring Sample 20' + Dup - 4 + 1  
A-1-J Ring Sample 30'  
\* A-1-J Ring Sample 40'  
B6-U-B1 6" Ring Sample 5'  
B6-U-B1 6" Ring Sample 10' } 5  
B6-U-B1 6" Ring Sample 20'  
B6-U-B1 6" Ring Sample 30'  
B6-U-B1 6" Ring Sample 40'

- 5) These samples were composited and analyzed for CAM metals.

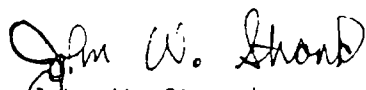
B6-U-B1 6" Ring Sample 10'  
B6-U-B1 6" Ring Sample 20'  
B6-U-B1 6" Ring Sample 30'  
B6-U-B1 6" Ring Sample 40'

- 6) These samples were analyzed individually for volatile organics, CAM Metals, and pH.

B1-ZY-B1 6" Ring Sample 5'  
B1-ZY-B1 6" Ring Sample 12'  
B1-ZY-B1 6" Ring Sample 17' } 5  
B1-ZY-B1 6" Ring Sample 30'  
B1-ZY-B1 Aug. Sample 38'

The volatile organics were analyzed individually, and the results composited mathematically. The results are tentative, a report containing confirmation of the results will follow.

Attached are the test results.

  
John W. Strand  
Support Services Manager

Reviewed by   
Mark King  
Laboratory Manager

JWS:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

\* Sample A-1-J Ring Sample 40' was not analyzed successfully by direct sparge technique due to an unidentified interference.

DATA SUMMARY  
— OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 11-9-84  
Sample I.D.: B1-ZY-B1 6" 5' Date Analyzed: 11-15 thru 12-11-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>27.0</u>	Arsenic
<u>101</u>	Barium
<u>&lt;1.0</u>	Beryllium
<u>&lt;0.5</u>	Cadmium
<u>13.3</u>	Chromium (total)
<u>&lt;0.5</u>	*Chromium (hexavalent)
<u>9.3</u>	Cobalt
<u>13.3</u>	Copper
<u>4.4</u>	Lead
<u>0.146</u>	Mercury
<u>17.6</u>	Molybdenum
<u>8.4</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>30.6</u>	Vanadium
<u>54.5</u>	Zinc
<u>8.65</u>	pH (units)

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

01-001667-18

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 11-9-84  
Sample I.D.: B1-ZY-B1 6" 12' Date Analyzed: 11-15 thru 12-11-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>9.4</u>	Arsenic
<u>30.3</u>	Barium
<u>&lt;1.0</u>	Beryllium
<u>&lt;0.5</u>	Cadmium
<u>&lt;0.5</u>	Chromium (total)
	*Chromium (hexavalent)
<u>4.7</u>	Cobalt
<u>&lt;1.0</u>	Copper
<u>&lt;2.5</u>	Lead
<u>0.198</u>	Mercury
<u>8.2</u>	Molybdenum
<u>&lt;0.5</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>11.8</u>	Vanadium
<u>&lt;0.5</u>	Zinc
<u>8.67</u>	pH (units)

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

01-001667-19

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 11-9-84  
Sample I.D.: B1-ZY-B1 6" 17' Date Analyzed: 11-15 thru 12-11-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>9.3</u>	Arsenic
<u>28.9</u>	Barium
<u>&lt;1.0</u>	Beryllium
<u>&lt;0.5</u>	Cadmium
<u>5.4</u>	Chromium (total)
<u>&lt;0.5</u>	*Chromium (hexavalent)
<u>2.8</u>	Cobalt
<u>6.0</u>	Copper
<u>&lt;2.5</u>	Lead
<u>0.139</u>	Mercury
<u>5.2</u>	Molybdenum
<u>2.9</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>12.7</u>	Vanadium
<u>17.2</u>	Zinc
<u>8.49</u>	pH (units)

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 11-9-84  
Sample I.D.: B1-ZY-B1 6" 30' Date Analyzed: 11-15 thru 12-11-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>18.7</u>	Arsenic
<u>41.0</u>	Barium
<u>&lt;1.0</u>	Beryllium
<u>2.71</u>	Cadmium
<u>&lt;0.5</u>	Chromium (total)
	*Chromium (hexavalent)
<u>3.1</u>	Cobalt
<u>&lt;1.0</u>	Copper
<u>&lt;2.5</u>	Lead
<u>0.147</u>	Mercury
<u>5.2</u>	Molybdenum
<u>&lt;0.5</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>12.0</u>	Vanadium
<u>&lt;0.5</u>	Zinc
<u>7.78</u>	pH (units)

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 11-9-84  
Sample I.D.: B1-ZY-B1 Aug. 38' Date Analyzed: 11-15 thru 12-11-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>22.3</u>	Arsenic
<u>79.4</u>	Barium
<u>&lt;1.0</u>	Beryllium
<u>&lt;0.5</u>	Cadmium
<u>11.4</u>	Chromium (total)
<u>&lt;0.5</u>	*Chromium (hexavalent)
<u>8.6</u>	Cobalt
<u>8.9</u>	Copper
<u>&lt;2.5</u>	Lead
<u>0.197</u>	Mercury
<u>14.2</u>	Molybdenum
<u>6.9</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>26.3</u>	Vanadium
<u>34.6</u>	Zinc
<u>8.76</u>	pH (units)

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-6-84  
 Sample I.D.: B1-ZY-B1 5' Date Received by Lab: 11-9-84  
 Sample Matrix: Soil Date Analyzed: 12-10-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

ND = Not Detected, limit of detection for this compound has not been fully evaluated.



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 11-6-84  
 Sample I.D.: B1-ZY-B1 12' Date Received by Lab: 11-9-84  
 Sample Matrix: Soil Date Analyzed: 12-10-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-6-84  
 Sample I.D.: B1-ZY-B1 17' Date Received by Lab: 11-9-84  
 Sample Matrix: Soil Date Analyzed: 12-10-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromocform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

VIAL BROKEN IN SHIPMENT

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-6-84  
 Sample I.D.: B1-ZY-B1 30' Date Received by Lab: 11-9-84  
 Sample Matrix: Soil Date Analyzed: 12-10-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
18.1	Tetrachloroethene		

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

01-001667-21

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: <u>Gregg &amp; Associates</u>	Date Collected: <u>11-6-84</u>
Sample I.D.: <u>B1-ZY-B1 38'</u>	Date Received by Lab: <u>11-9-84</u>
Sample Matrix: <u>Soil</u>	Date Analyzed: <u>12-10-84</u>

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>5.3</u>	Tetrachloroethene		

SEPTUM INVERTED

ND = Not Detected, limit of detection for this compound has not been fully evaluated.



I.D. 01-001685  
January 8, 1985

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647


Project: CALAC

Project Number: 84-106

On November 12, 1984 Analytical Technologies, Inc. received fifteen (15) soil samples for analyses. Volatile organics were analyzed using gas chromatography, in accordance with EPA methods 8010 and 8020. Metals were analyzed by inductively coupled plasma and atomic absorption graphite furnace, in accordance with the EPA 200 series methods. Sulfate was analyzed using ion chromatography; pH and cyanide using EPA wet methods.

Described below is the disposition of each sample.

- 1) These samples were composited and analyzed for pH, sulfate, chromium, and sodium.  
  
B1-ZC-B1 12' 6"  
B1-ZC-B1 17' 6"  
B1-ZC-B1 25' 6"  
B1-ZC-B1 40' 6"
- 2) These samples were composited and analyzed for volatile organics, California Assessment Manual (CAM), metals, pH, and cyanide.  
  
B1-ZM-B1 10' 6"  
B1-ZM-B1 15' 6"  
B1-ZM-B1 25' 6"  
B1-ZM-B1 40' 6"
- 3) This sample was analyzed for volatile organics.  
  
B1-ZB-B1 5' 6"
- 4) These samples were analyzed individually for volatile organics, composited and analyzed for pH, sulfate, cyanide, chromium, and sodium.  
  
B1-ZB-B1 10' 6"  
B1-ZB-B1 25' 6"  
B1-ZB-B1 40' 6"



Page 2  
Gregg & Associates, Inc.

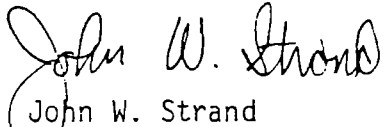
5) These samples are being held.

B1-ZC-B1 5' 6"  
B1-ZM-B1 5' 6"  
B1-ZB-B1 Jar Sample

Confirmation of volatile results will follow.

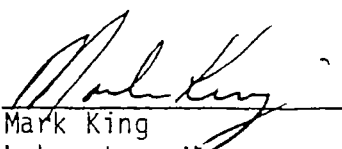
Attached are the test results.

ML:mat



John W. Strand  
Support Services Manager

Reviewed by



Mark King  
Laboratory Manager

JWS:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 11-12-84  
Sample I.D.: B1-ZM-B1 Composite Date Analyzed: 11-15 thru 12-7-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>5.18</u>	Arsenic
<u>42.0</u>	Barium
<u>&lt; 1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>6.3</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>5.1</u>	Cobalt
<u>8.9</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>0.2</u>	Mercury
<u>11.1</u>	Molybdenum
<u>4.9</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>15.8</u>	Vanadium
<u>13.9</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

Gregg &amp; Associates

I.D. 01-001685

## DATA SHEET

<u>Sample</u>	<u>Parameter</u>	<u>(mg/kg)*</u>
B1-ZC-B1 Composite	pH	8.44
	Sulfate	11.0
	Chromium (total)	5.7
	Sodium	364
	Chromium (Cr <sup>6</sup> )	<0.5
B1-ZM-B1 Composite	pH	8.41
	Cyanide	<0.2
B1-ZB-B1 Composite	pH	8.69
	Sulfate	11.0
	Cyanide	<0.2
	Chromium (total)	11.3
	Sodium	590
	Chromium (Cr <sup>6</sup> )	<0.5

\*(mg/kg) is milligrams per kilogram.



01-001685 ( 7 thru 10)

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-9-84  
 Sample I.D.: B1-ZM-B1 Composite Date Received by Lab: 11-12-84  
 Sample Matrix: Soil Date Analyzed: 12-26-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
4.2	Tetrachloroethene		

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-9-84  
 Sample I.D.: B1-ZB-B1 at 5' Date Received by Lab: 11-12-84  
 Sample Matrix: Soil Date Analyzed: 12-26-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
4.9	Tetrachloroethene		

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-9-84  
 Sample I.D.: B1-ZB-B1 at 10' Date Received by Lab: 11-12-84  
 Sample Matrix: Soil Date Analyzed: 12-26-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
61.0	Tetrachloroethene		

ND = Not Detected, limit of  
detection for this  
compound has not been  
fully evaluated.

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 11-9-84  
 Sample I.D.: B1-ZB-B1 at 25' Date Received by Lab: 11-12-84  
 Sample Matrix: Soil Date Analyzed: 12-26-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
14.2	Tetrachloroethene		

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-9-84  
 Sample I.D.: B1-ZB-B1 at 25' Date Received by Lab: 11-12-84  
 Sample Matrix: Soil Date Analyzed: 12-26-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
13.1	Tetrachloroethene		

ND = Not Detected, limit of  
detection for this  
compound has not been  
fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-9-84  
 Sample I.D.: B1-78-B1 at 40' Date Received by Lab: 11-12-84  
 Sample Matrix: Soil Date Analyzed: 12-26-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>301,000</u>	Tetrachloroethene		

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001685 -SPIKE

Client: Gregg & Associates  
Sample I.D.: Spike  
Sample Matrix: Soil

Date Collected: 11-9-84  
Date Received by Lab: 11-12-84  
Date Analyzed: 12-26-84

% Recovery

<u>95.7</u>	Bromodichloromethane
<u>92.2</u>	Carbon Tetrachloride
<u>91.3</u>	Chlorobenzene
<u>94.7</u>	Chloroethane
<u>97.6</u>	2-Chloroethylvinylether
<u>102</u>	Chloroform
<u>85.3</u>	Chloromethane
<u>94.3</u>	1,2 Dichloroethane
<u>105</u>	1,1 Dichloroethane
<u>85.3</u>	trans 1,2 Dichloroethene
<u>91.9</u>	cis 1,3 Dichloropropene
<u>91.3</u>	1,1,1-Trichloroethane
<u>106</u>	Trichloroethene



Analytical **Technologies, Inc.**

Corporate Offices 225 W. 30th Street National City, CA 92050 619 477-4173

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0838

I.D. 01-001685

January 31, 1985

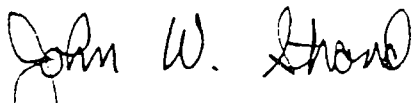
Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

Attention: Ed Baquerizo


Listed below are gas chromatograph/mass spectrometer confirmation  
of the volatile organics present in samples B1-ZB-B1 at 10 and  
40 feet.

B1-ZB-B1 10'  
B1-ZB-B1 40'

TETRACHLOROETHENE  
TETRACHLOROETHENE

  
John W. Strand  
Support Services Manager

Reviewed by

  
Mark King  
Laboratory Manager

ML:mat





Analytical Technologies, Inc.

Corporate Offices: 225 W. 30th Street National City, CA 92050 619 477-4173

I.D. 01-001686

Gregg and Associates  
18351 Beach Blvd. Suite "L"  
Huntington Beach, CA 92647

Project: CALAC  
Project No: 84-106

On November 13, 1984 Analytical Technologies, Inc. received twenty seven (27) soil samples for analyses. Volatile organics were analyzed using gas chromatography in accordance with EPA methods 8010 and 8020. California Assessment Manual (CAM) metals were analyzed by acid digesting soil aliquots, and analyzing the digest using either inductively coupled plasma or atomic absorption inductively coupled plasma or atomic absorption graphite furnace, in accordance with the EPA 200 series methods. Petroleum hydrocarbons and oil and grease, were analyzed by extracting soil aliquots with freon, then analyzing the extracts by infrared spectrophotometry, in accordance with EPA method 418.1. Cyanide and pH were analyzed in accordance with EPA wet methods.

Listed below is the disposition of each sample.

- 1) This sample was analyzed for petroleum hydrocarbons

B1-F3-MV1 6" at 12'

- 2) These samples were composited and analyzed for volatile organics, CAM metals, pH, and cyanide.

B1-AN-B1 6" at 10'

B1-AN-B1 6" at 15'

B1-AN-B1 6" at 30'

B1-AN-B1 6" at 40'

B1-AG-B1

- 3) These samples were composited and analyzed for volatile organics, CAM metals, pH, and cyanide.

B1-AP-B1 6" at 10'

B1-AP-B1 6" at 15'

B1-AP-B1 6" at 30'

B1-AP-B1 6" at 40'

- 4) This sample was analyzed for oil and grease and pH.

AJ  
B1-AJ-MV1 6" at 12'

- 5) These samples were analyzed individually for CAM Metals.

B1-AK-B1 6" at 10'

B1-AK-B1 6" at 40'

B1-AJ-B1 6" at 10'

B1-AJ-B1 6" at 40'

- 6) These samples were analyzed individually for volatile organics, pH, and oil and grease.

B1-AK-B1 6" at 5'  
B1-AK-B1 6" at 10'  
B1-AK-B1 6" at 15'  
B1-AK-B1 6" at 30'  
B1-AK-B1 6" at 40'  
B1-AJ-B1 6" at 5'  
B1-AJ-B1 6" at 10'  
B1-AJ-B1 6" at 15'

- 7) These samples were analyzed individually for volatile organics and oil and grease.

B1-AJ-B1 6" at 30'  
B1-AJ-B1 6" at 40'

- 8) These samples were composited and analyzed for volatile organics, pH, and petroleum hydrocarbons.

B1-AL-B1 6" at 12'  
B1-AL-B1 6" at 18'  
B1-AL-B1 6" at 25'  
B1-AL-B1 6" at 40'

- 9) These samples are being held

B1-AN-B1 6" at 5'  
B1-AP-B1 6" at 5'  
B1-AL-B1 6" at 5'

Attached are the test results.

*John W. Strand*

John Strand  
Services Support Manager

Reviewed by

*Mark King*  
Mark King  
Laboratory Manager

JS/br

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DATA SUMMARY  
OF CAM LISTED METALS

01-001686 (3 thru 6)

Client: Gregg & Associates Date Received: 11-18-84  
Sample I.D.: B1-AN-B1 Composite Date Analyzed: 11-26 thur 12-7  
Sample Matrix: Soil Concentration: Total (TTLC)

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>10.8</u>	Arsenic
<u>62.8</u>	Barium
<u>1.1</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>7.9</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>8.1</u>	Cobalt
<u>10.2</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>0.4</u>	Mercury
<u>16.7</u>	Molybdenum
<u>7.1</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>26.0</u>	Vanadium
<u>25.9</u>	Zinc

\*Hexavalent chromium is tested only when the  
total chromium value exceeds threshold limits.

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DATA SUMMARY  
OF CAM LISTED METALS

01-001686 (8 thru 11)

Client: Gregg & Associates Date Received: 11/13/84  
Sample I.D.: B1-~~AP~~-B1 Composite Date Analyzed: 11/26 thur 12/7  
Sample Matrix: Soil Concentration: Total (TTLC)

(Circle One) mg/L or mg/Kg	
<u>&lt; 2.5</u>	Antimony
<u>9.5</u>	Arsenic
<u>68.1</u>	Barium
<u>1.2</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>9.6</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>6.9</u>	Cobalt
<u>10.8</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>13.5</u>	Molybdenum
<u>7.4</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>24.5</u>	Vanadium
<u>27.3</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

01-001686-14

Client: Gregg & Associates Date Received: 11/13/84  
Sample I.D.: B1-AK-B1 6" at 10' Date Analyzed: 11/26 thru 12/7  
Sample Matrix: Soil Concentration: Total (TTLC)

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>6.7</u>	Arsenic
<u>40.3</u>	Barium
<u>&lt; 1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>5.9</u>	Chromium (total)
	*Chromium (hexavalent)
<u>1.9</u>	Cobalt
<u>5.3</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>4.4</u>	Molybdenum
<u>3.7</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>11.9</u>	Vanadium
<u>20.2</u>	Zinc

\*Hexavalent chromium is tested only when the  
total chromium value exceeds threshold limits.

DATA SUMMARY : 01-001686-17  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 11/13/84  
Sample I.D.: B1-AK-B1 6" at 40' Date Analyzed: 11/26 thur 12/7  
Sample Matrix: Soil Concentration: Total (TTLC)

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>21.9</u>	Arsenic
<u>186</u>	Barium
<u>1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>24.7</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>12.0</u>	Cobalt
<u>28.0</u>	Copper
<u>3.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>24.0</u>	Molybdenum
<u>20.0</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>43.8</u>	Vanadium
<u>67.7</u>	Zinc

\*Hexavalent chromium is tested only when the  
total chromium value exceeds threshold limits.

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DATA SUMMARY  
OF CAM LISTED METALS

01-001686-19

Client: Gregg & Associates Date Received: 11/13/84  
Sample I.D.: B1-Aj-B1 6" at 10' Date Analyzed: 11/26 thru 12/7  
Sample Matrix: Soil Concentration: Total (TTLIC)

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>8.95</u>	Arsenic
<u>58.6</u>	Barium
<u>&lt; 1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>8.6</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>1.4</u>	Cobalt
<u>9.2</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>4.0</u>	Molybdenum
<u>6.8</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>14.6</u>	Vanadium
<u>23.5</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

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DATA SUMMARY  
OF CAM LISTED METALS

01-001686-22

Client: Gregg & Associates Date Received: 11-13-84  
Sample I.D.: B1-AJ-B1 6" at 40' Date Analyzed: 11-26 thru 12-7  
Sample Matrix: Soil Concentration: Total (TTL)

(Circle One)  
mg/L or mg/Kg

<u>&lt; 2.5</u>	Antimony
<u>13.5</u>	Arsenic
<u>103</u>	Barium
<u>1.0</u>	Beryllium
<u>&lt; 0.5</u>	Cadmium
<u>14.4</u>	Chromium (total)
<u>&lt; 0.5</u>	*Chromium (hexavalent)
<u>7.7</u>	Cobalt
<u>13.9</u>	Copper
<u>&lt; 2.5</u>	Lead
<u>&lt; 0.1</u>	Mercury
<u>13.9</u>	Molybdenum
<u>12.2</u>	Nickel
<u>&lt; 2.5</u>	Selenium
<u>&lt; 2.5</u>	Silver
<u>&lt; 2.5</u>	Thallium
<u>33.1</u>	Vanadium
<u>44.2</u>	Zinc

\*Hexavalent chromium is tested only when the  
total chromium value exceeds threshold limits.



Gregg &amp; Associates

01-001686

DATA SHEET

<u>Sample</u>	<u>Parameter</u>	<u>mg/kg*</u>
1 B1-FB-MV1 6" at 12'	Petroleum Hydrocarbons	5.3
3-6 B1-AN-B1 Composite	pH	8.18
	Cyanide	<0.2
8-11 B1-AP-B1 Composite	pH	8.87
	Cyanide	<0.2
12 B1-AJ-MV1 6" at 12'	pH	8.54
	Oil and Grease	2.7
24-27 B1-AL-B1 Composite	pH	8.30
	Petroleum Hydrocarbons	<0.5
21 B1-AJ-B1 6" at 30'	Oil and Grease	<0.5
22 B1-AJ-B1 6" at 40'	Oil and Grease	<0.5

<u>Sample</u>	<u>Oil and Grease (mg/kg)</u>	<u>pH (units)</u>
13 B1-AK-B1 6" at 5'	4.2	8.32
14 B1-AK-B1 6" at 10'	7.7	7.82
15 B1-AK-B1 6" at 15'	0.8	7.50
16 B1-AK-B1 6" at 30'	0.8	8.84
17 B1-AK-B1 6" at 40'	< 0.5	8.77
18 B1-AJ-B1 6" at 5'	0.8	8.47
19 B1-AJ-B1 6" at 10'	1.1	7.74
20 B1-Aj-B1 6" at 15'	0.8	8.07

\* mg/kg is milligrams per kilograms

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686 -(3 thru 6)

Client: Gregg & Associates Date Collected: 11-12-84  
 Sample I.D.: B1-AN-B1 composite Date Received by Lab: 11-13-84  
 Sample Matrix: Soil Date Analyzed: 12-31-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

N.D. Not Detected, limit of detection for this compound has not been fully evaluated.

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VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686 - (8 thru 11)

Client: Gregg & Associates Date Collected: 11-12-84  
Sample I.D.: B1-AP-B1 composite Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

N.D. Not Detected, limit  
of detection for this  
compound has not been fully  
evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686-13

Client: Gregg & Associates Date Collected: 11-12-84  
Sample I.D.: B1-AK-B1 5' Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

N.D. Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

DUPLICATE  
01-001686-13

Client: Gregg & Associates Date Collected: 11-12-84  
Sample I.D.: \_\_\_\_\_ Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

N.D. Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686 14

Client: Gregg & Associates Date Collected: 11-12-84  
 Sample I.D.: B1-~~A2~~-B1 10' Date Received by Lab: 11-13-84  
 Sample Matrix: Soil Date Analyzed: 12-31-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

N.D. Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686 -15

Client: Gregg & Associates Date Collected: 11-12-84  
Sample I.D.: B1-AK-B1 15' Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

N.D. Not Detected, limit  
of detection for this  
compound has not been fully  
evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Duplicate  
01-001686

Client: Gregg & Associates Date Collected: 11-12-84  
Sample I.D.: B1-AK-~~14~~15' Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

N.D. Not Detected, limit  
of detection for this  
compound has not been fully  
evaluated.



0838

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686

Client: Gregg & Associates Date Collected: 11-12-84  
Sample I.D.: B1-AK-B1 30' Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

N.D. Not Detected, limit  
of detection for this  
compound has not been fully  
evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686-17

Client: Gregg & Associates Date Collected: 11-12-84  
Sample I.D.: B1-AK-B1 40' Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

N.D. Not Detected, limit  
of detection for this  
compound has not been fully  
evaluated.

0838

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686-18

Client: Gregg & Associates Date Collected: 11-12-84  
Sample I.D.: B1-AJ-B1 5' Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

N.D. Not Detected, limit  
of detection for this  
compound has not been fully  
evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686-19

Client: Gregg & Associates Date Collected: 11-12-84  
 Sample I.D.: B1-AJ-B1 10' Date Received by Lab: 11-13-84  
 Sample Matrix: Soil Date Analyzed: 12-31-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

N.D. Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686 -20

Client: Gregg & Associates Date Collected: 11-12-84  
Sample I.D.: B1-AJ-B1 15' Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

N.D. Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686-21

Client: Gregg & Associates Date Collected: 11-12-84  
Sample I.D.: B1-AJ-B1 30' Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

N.D. Not Detected, limit  
of detection for this  
compound has not been fully  
evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686 -22

Client: Gregg & Associates Date Collected: 11-12-84  
 Sample I.D.: B1-AJ-B1 40' Date Received by Lab: 11-13-84  
 Sample Matrix: Soil Date Analyzed: 12-31-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

N.D. Not Detected, limit of detection for this compound has not been fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686 (24 through 27)

Client: Gregg & Associates Date Collected: 11-12-84  
 Sample I.D.: B1-AL-B1 composite Date Received by Lab: 11-13-84  
 Sample Matrix: Soil Date Analyzed: 12-31-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

N.D. Not Detected, limit of detection for this compound has not been fully evaluated.



VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

01-001686 -Spike

Client: Grega & Associates Date Collected: 11-12-84  
Sample I.D.: Spike B1-AK-B1 10' Date Received by Lab: 11-13-84  
Sample Matrix: Soil Date Analyzed: 12-31-84

<u>% Recovery</u>		<u>% Recovery</u>	
	Benzene		Toluene
<u>91.1</u>	Bromodichloromethane		1,1,1-Trichloroethane
	Bromoform	<u>95.2</u>	1,1,2-Trichloroethane
	Bromomethane	<u>101</u>	Trichloroethene
<u>98.1</u>	Carbon Tetrachloride		Trichlorofluoromethane
<u>89.7</u>	Chlorobenzene	<u>101</u>	Vinyl Chloride
	Chloroethane		
	2-Chloroethylvinylether		
<u>109</u>	Chloroform		
	Chloromethane		
	Dibromochloromethane		
	1,2-Dichlorobenzene		
	1,3-Dichlorobenzene		
	1,4-Dichlorobenzene		
	Dichlorodifluoromethane		
	1,1-Dichloroethane		
<u>97.5</u>	1,2-Dichloroethane		
<u>99.5</u>	1,1-Dichloroethene		
<u>100</u>	trans-1,2-Dichloroethene		
	1,2-Dichloropropane		
	cis-1,3-Dichloropropene		
	trans-1,3-Dichloropropene		
<u>97.8</u>	Ethyl Benzene		
<u>95.5</u>	Methylene Chloride		
	1,1,2,2-Tetrachloroethane		
<u>92.2</u>	Tetrachloroethene		

N.D. Not Detected, limit  
of detection for this  
compound has not been fully  
evaluated.



I.D. 01-001693

January 8, 1985

Gregg & Associates  
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Huntington Beach, CA 92647

Project: CALAC

Project No: 84-106

On November 15, 1984 Analytical Technologies, Inc. received ten (10) soil samples, in brass tubes, for analyses. Volatile organics were analyzed by gas chromatography, in accordance with EPA methods 8010 and 8020. California Assessment Manual (CAM) metals were analyzed by acid digesting aliquots of soil, and analyzing the digests by atomic absorption graphite furnace and inductively coupled plasma, in accordance with the EPA 200 series methods. Aluminum was analyzed for by extracting soil aliquots with citric acid for 24 hours, then analyzing the extracts using inductively coupled plasma. Cyanide and pH were analyzed according to EPA wet methods.

Described below is the disposition of each sample.

- 1) These samples were analyzed individually for pH, chromium, and cyanide

B1-ZG-B1 6" at 5'  
B1-ZG-B1 6" at 10'  
B1-ZG-B1 6" at 15'  
B1-ZG-B1 6" at 25'  
B1-ZG-B1 6" at 40'

- 2) These samples were analyzed individually for volatile organics, pH, CAM metals, and extractable aluminum.

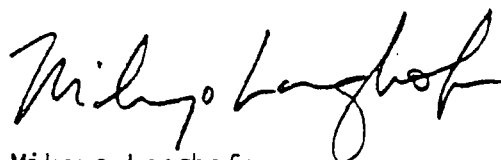
B6- Background 6" at 5'  
B6- Background 6" at 10'  
B6- Background 6" at 20'  
B6- Background 6" at 30'  
B6- Background 6" at 40'

- 2 1) These samples were analyzed individually for volatile organics.

Page 2


#6  
#7  
#8  
#9  
#10

Confirmation of the volatile organic results will follow.



Mikayo Langhofer  
Technical Associate

Reviewed by

  
Mark King  
Laboratory Manager

ML/br

Enclosures

GREGG &amp; ASSOCIATES

01-001693

<u>Sample</u>	<u>Concentration (mg/kg)**</u>		
	<u>Parameter</u>		
	<u>pH</u>	<u>Chromium</u>	<u>Cyanide</u>
B1-ZG-B1 6" at 5'	8.03	1.2	< 0.2
B1-ZG-B1 6" at 10'	7.60	6.0*	< 0.2
B1-ZG-B1 6" at 15'	8.54	2.6	< 0.2
B1-ZG-B1 6" at 25'	8.33	1.0	< 0.2
B1-ZG-B1 6" at 40'	8.15	3.8	< 0.2
	<u>pH</u>	<u>Extractable Aluminum</u>	<u>Oil and Grease</u>
B6 Background 6" at 5'	8.23	25.3	3.1
B6 Background 6" at 10'	8.20	19.2	< 1.0
B6 Background 6" at 20'	8.34	23.6	< 1.0
B6 Background 6" at 30'	7.72	13.7	< 1.0
B6 Background 6" at 40'	8.44	12.6	< 1.0

\* The amount of hexavalent chromium in this sample was below detection limits ( 0.5 mg/kg)

\*\* (mg/kg) is milligram per kilogram



I.D. 01-001715

January 3, 1985

RECEIVED JAN 10 1985

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

Project: Lockheed

Project Number: 84-106

On November 20, 1984 Analytical Technologies, Inc. received nine (9) soil samples for analyses. Volatile organics were analyzed using gas chromatography, in accordance with EPA methods 8010 and 8020. Oil and grease were analyzed by extracting the soil with freon and analyzing the extract by infrared spectrophotometry, in accordance with EPA method 418.1. California Assessment Manual (CAM) metals were analyzed by acid digesting a soil sample, then analyzing the extract using inductively coupled plasma or atomic absorption graphite furnace, in accordance with the EPA SW - 846 methods. Cyanide and pH were analyzed by EPA wet methods.

Described below is the disposition of each sample.

- 1) These samples were composited and analyzed for pH, chromium, and cyanide.

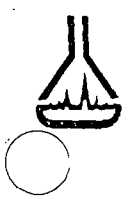
B1-ZF-SL1 0-10'  
B1-ZF-SL1 15'  
B1-ZF-SL1 28'

- 2) These samples were composited and analyzed for volatile organics and oil and grease.

B1-ZJ-SL1 8'  
B1-ZJ-SL1 15'  
B1-ZJ-SL1 30'

- 3) These samples were composited and analyzed for volatile organics, CAM metals, and pH.

B1-AC-SL1 0-10'  
B1-AC-SL1 15'  
B1-AC-SL1 30'



I.D. 01-001715  
Gregg & Associates, Inc.  
Page 2

Attached are the test results.

*John W. Strand*

John W. Strand  
Support Services Manager

Reviewed by

*Mark King*  
Mark King  
Laboratory Manager

JWS:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

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Gregg &amp; Associates

I.D. 01-001715

## DATA SHEET

<u>Sample</u>	<u>Parameter</u>	<u>Concentration (mg/kg)*</u>
B1-ZF-SL1 Composite	pH	9.95
	Chromium (total)	8.5
	Chromium (Cr <sup>6</sup> )	<0.5
	Cyanide	<0.05
B1-ZJ-SL1 Composite	Oil & Grease	20.1

\* (mg/kg) is milligrams per kilogram

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 11-20-84  
Sample I.D.: B1-AC-SL1 Composite Date Analyzed: 11-20 thru 12-5-84  
Sample Matrix: Soil Concentration: milligrams per kilogram

(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>9.1</u>	Arsenic
<u>57.1</u>	Barium
<u>1.0</u>	Beryllium
<u>0.9</u>	Cadmium
<u>15.5</u>	Chromium (total)
<u>0.85</u>	*Chromium (hexavalent)
<u>3.9</u>	Cobalt
<u>8.3</u>	Copper
<u>4.92</u>	Lead
<u>&lt;0.1</u>	Mercury
<u>9.1</u>	Molybdenum
<u>6.3</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>15.9</u>	Vanadium
<u>39.0</u>	Zinc
<u>8.91</u>	pH

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.



01-001715 (4 thru 6)

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-20-84  
 Sample I.D.: B1-ZJ-SL1 Composite Date Received by Lab: 11-20-84  
 Sample Matrix: Soil Date Analyzed: 12-18-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

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## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 8010 &amp; 8020)

Client: Gregg & Associates Date Collected: 11-20-84  
Sample I.D.: B1-ZJ-SL1 Composite Date Received by Lab: 11-20-84  
Sample Matrix: Soil Date Analyzed: 12-18-84

<u>µg/Kg</u>		<u>µg/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 8010 & 8020)

Client: Gregg & Associates Date Collected: 11-20-84  
 Sample I.D.: B1-AC-SL1 Composite Date Received by Lab: 11-20-84  
 Sample Matrix: Soil Date Analyzed: 12-18-84

<u>ug/Kg</u>		<u>ug/Kg</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		



I.D. 01-001746

January 10, 1985

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

Project: CALAC

Number: 84106


On December 3, 1984 Analytical Technologies, Inc. received twenty-six (26) liquid samples (water, water and oil, and oil) and four (4) soil samples for analyses. Volatile organic analyses was requested, however the samples were improperly sampled. Ed Baquerizo was contacted, and the samples were resubmitted on December 13, 1984. Volatile organic analyses results are reported in Analytical Technologies, Inc. report number 01-001778.

Oil and grease were analyzed by extracting aliquots of sample with freon, and analyzing the extract using infrared spectrophotometry, in accordance with EPA Method 413.2. For the analyses of California Assessment Manual (CAM) metals, some of the samples required acid digestion before analyses. Sample B1-AI was oil, and was digested with nitric acid, in accordance with EPA Method 3030. Samples B1-ZM, B1-ZN, B1-ZY, B1-AC, B1-AL, and B1-AU were water samples which contained a large amount of solid material. They were digested under high temperature with sulfuric acid. As a consequence of digestion, these samples have a higher limits of detection than the undigested samples. The remainder of the samples were analyzed directly. Analyses of the digests and waters were done using inductively coupled plasma and atomic absorption graphite furnace, in accordance with the EPA 200 series methods. EPA Method 150.1 was used for the analyses of pH.

Described below is the disposition of each sample.

- 1) These samples were analyzed individually for oil and grease.

B1-~~AA~~ ~~AA~~  
B1-H  
B1-I  
B1-ZY Untreated  
B1-AE  
B1-AH Untreated  
B1-AL Untreated



January 10, 1985  
Page 2  
Gregg & Associates, Inc.

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Oil & Grease (cont.)

B1-AU untreated

B1-J

MM 2 5'

MM 2 8'

B6-MM1 5'

B6-MM1 8'

- 2) These samples were analyzed individually for pH.

B1-ZM

B1-ZN untreated

B1-ZY untreated

B1-AC

B1-AI untr,

B1-AJ

B1-AL

B1-AN untreated

B1-AP untreated

- 3) These samples were analyzed individually for CAM metals.

B1-ZM

B1-ZN Treated

B1-ZY Treated

B1-AC

B1-AI Treated

B1-AJ

B1-AL ~~untreated~~

B1-AU Treated

B1-AN Treated

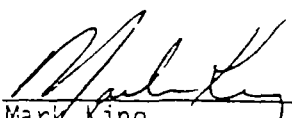
B1-AP Treated

Attached are the test results.

ML:mat

John W. Strand  
Support Services Manager

Reviewed by

  
Mark King  
Laboratory Manager

Attachments

Gregg &amp; Associates

I.D. 01-001746

<u>Sample</u>	<u>Oil &amp; Grease</u>
B1- <del>AA</del> <sup>AA</sup> untreated	~ 50% oil ~50% water
B1-H	896 mg/L
B1-I	~ 50% oil ~50% water
B1-ZY untreated	41.5 mg/L
B1-AE untreated	2330 mg/L
B1-AH untreated	1.0
B1-AL untreated	10.8 mg/L
B1-AU untreated	254 mg/L
B1-J	≥ 99% oil
MM 2 5'	119 mg/kg
MM 2 8'	993 mg/kg
B6MM 1 8'	2213 mg/kg
B6MM 1 5'	462 mg/kg

<u>Sample</u>	<u>pH (Units)</u>
B1-ZM untreated	7.07
B1-ZN untreated	1.12
B1-ZY untreated	8.09
B1-AC	8.35
B1-AI Untreated	7.57 ~ 50% water ~ 50% oil pH on water phase
B1-AJ untreated	1.53
B1-AL untreated	7.69
B1-AN untreated	7.25
B1-AP untreated	7.45

01-001746-5

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 12-3-84  
Sample I.D.: B1-ZM Treated Date Analyzed: 12-18 thru 12-31-84  
Sample Matrix: Water Concentration: milligrams per kilogram

DIGESTION METHOD: 3050

(Circle One)  
mg/L or mg/Kg

<u>4.20</u>	Antimony
<u>0.62</u>	Arsenic
<u>192</u>	Barium
<u>&lt;0.1</u>	Beryllium
<u>7.69</u>	Cadmium
<u>161</u>	Chromium (total)
	*Chromium (hexavalent)
<u>0.42</u>	Cobalt
<u>69</u>	Copper
<u>11.1</u>	Lead
<u>0.09</u>	Mercury
<u>3.4</u>	Molybdenum
<u>2.2</u>	Nickel
<u>4.0</u>	Selenium
<u>1.3</u>	Silver
<u>&lt;0.05</u>	Thallium
<u>1.4</u>	Vanadium
<u>53</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 12-3-84  
Sample I.D.: B1-ZN Treated Date Analyzed: 12-18 thru 12-31-84  
Sample Matrix: Water Concentration: milligrams per kilogram

DIGESTION METHOD: 3050

(Circle One)  
mg/L or mg/Kg

<u>&lt;0.25</u>	Antimony
<u>&lt;0.25</u>	Arsenic
<u>0.6</u>	Barium
<u>&lt;0.1</u>	Beryllium
<u>1.51</u>	Cadmium
<u>9.5</u>	Chromium (total)
	*Chromium (hexavalent)
<u>1.7</u>	Cobalt
<u>4.6</u>	Copper
<u>2.3</u>	Lead
<u>0.008</u>	Mercury
<u>4.2</u>	Molybdenum
<u>0.3</u>	Nickel
<u>&lt;0.25</u>	Selenium
<u>0.6</u>	Silver
<u>&lt;0.05</u>	Thallium
<u>2.8</u>	Vanadium
<u>1.8</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.



DATA SUMMARY  
OF CAM LISTED METALSClient: Gregg & AssociatesDate Received: 12-3-84Sample I.D.: B1-ZY TreatedDate Analyzed: 12-18 thru 12-31-84Sample Matrix: WaterConcentration: milligrams per kilogram

DIGESTION METHOD: 3050

(Circle One)  
mg/L or mg/Kg

<0.25	Antimony
<0.25	Arsenic
1.6	Barium
<0.1	Beryllium
<0.05	Cadmium
6.7	Chromium (total)
	*Chromium (hexavalent)
0.5	Cobalt
6.9	Copper
2.9	Lead
0.004	Mercury
<0.1	Molybdenum
0.1	Nickel
<0.25	Selenium
<0.3	Silver
<0.05	Thallium
<0.05	Vanadium
21.6	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 12-3-84  
Sample I.D.: B1-AC Date Analyzed: 12-18 thru 12-31-84  
Sample Matrix: Water & Treated Concentration: milligrams per kilogram

DIGESTION METHOD: 3050

(Circle One) mg/L or mg/Kg	
<u>0.31</u>	Antimony
<u>4.36</u>	Arsenic
<u>18.1</u>	Barium
<u>&lt;0.1</u>	Beryllium
<u>2.54</u>	Cadmium
<u>32</u>	Chromium (total)
	*Chromium (hexavalent)
<u>3.9</u>	Cobalt
<u>56</u>	Copper
<u>36.3</u>	Lead
<u>0.002</u>	Mercury
<u>3.3</u>	Molybdenum
<u>2.5</u>	Nickel
<u>&lt;0.25</u>	Selenium
<u>5790</u>	Silver
<u>&lt;0.05</u>	Thallium
<u>1.2</u>	Vanadium
<u>231</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALSClient: Gregg & AssociatesDate Received: 12-3-84Sample I.D.: B1-AI TreatedDate Analyzed: 12-18 thru 12-31-84Sample Matrix: WaterConcentration: milligrams per kilogram

DIGESTION METHOD: 3030

(Circle One)  
mg/L or (mg/Kg)

<u>0.69</u>	Antimony
<u>&lt;1.25</u>	Arsenic
<u>&lt;0.125</u>	Barium
<u>&lt;0.25</u>	Beryllium
<u>&lt;0.13</u>	Cadmium
<u>0.5</u>	Chromium (total)
	*Chromium (hexavalent)
<u>&lt;0.25</u>	Cobalt
<u>0.8</u>	Copper
<u>&lt;0.6</u>	Lead
<u>&lt;0.0005 in water/ 0.3 in oil</u>	Mercury
<u>&lt;0.25</u>	Molybdenum
<u>0.4</u>	Nickel
<u>&lt;1.25</u>	Selenium
<u>&lt;0.65</u>	Silver
<u>&lt;0.05</u>	Thallium
<u>&lt;0.125</u>	Vanadium
<u>6.3</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALSClient: Gregg & AssociatesDate Received: 12-3-84Sample I.D.: B1-AJ treadedDate Analyzed: 12-18 thru 12-31-84Sample Matrix: WaterConcentration: milligrams per liter(Circle One)  
mg/L or mg/Kg.

<u>&lt;0.005</u>	Antimony
<u>&lt;0.005</u>	Arsenic
<u>&lt;0.01</u>	Barium
<u>&lt;0.02</u>	Beryllium
<u>0.001</u>	Cadmium
<u>&lt;0.01</u>	Chromium (total)
	*Chromium (hexavalent)
<u>&lt;0.02</u>	Cobalt
<u>&lt;0.02</u>	Copper
<u>&lt;0.005</u>	Lead
<u>&lt;0.0005</u>	Mercury
<u>&lt;0.02</u>	Molybdenum
<u>&lt;0.01</u>	Nickel
<u>&lt;0.005</u>	Selenium
<u>&lt;0.05</u>	Silver
<u>&lt;0.005</u>	Thallium
<u>&lt;0.01</u>	Vanadium
<u>0.72</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 12-3-84  
Sample I.D.: B1-AL treated Date Analyzed: 12-18 thru 12-31-84  
Sample Matrix: Water Concentration: milligrams per kilogram  
DIGESTION METHOD: 3050

(Circle One) mg/L or (mg/Kg)	
<0.25	Antimony
<0.25	Arsenic
19.1	Barium
<0.1	Beryllium
0.30	Cadmium
1.2	Chromium (total)
	*Chromium (hexavalent)
<0.1	Cobalt
1.1	Copper
4.0	Lead
Insufficient sample	Mercury
0.2	Molybdenum
0.3	Nickel
<0.25	Selenium
0.5	Silver
<0.05	Thallium
<0.05	Vanadium
21.7	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALSClient: Gregg & AssociatesDate Received: 12-3-84Sample I.D.: B1-AU (Treated)Date Analyzed: 12-18 thru 12-31-84Sample Matrix: WaterConcentration: milligrams per kilogram

DIGESTION METHOD: 3050

(Circle One)  
mg/L or mg/Kg

<u>&lt;0.25</u>	Antimony
<u>&lt;0.25</u>	Arsenic
<u>&lt;0.05</u>	Barium
<u>&lt;0.1</u>	Beryllium
<u>&lt;0.05</u>	Cadmium
<u>5.8</u>	Chromium (total)
	*Chromium (hexavalent)
<u>&lt;0.1</u>	Cobalt
<u>0.2</u>	Copper
<u>&lt;0.25</u>	Lead
<u>&lt;0.0005</u>	Mercury
<u>&lt;0.1</u>	Molybdenum
<u>0.1</u>	Nickel
<u>&lt;0.25</u>	Selenium
<u>&lt;0.25</u>	Silver
<u>&lt;0.05</u>	Thallium
<u>0.05</u>	Vanadium
<u>1.2</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 12-3-84  
Sample I.D.: B1-AN Treated Date Analyzed: 12-18 thru 12-31-84  
Sample Matrix: Water Concentration: milligrams per liter

(Circle One)  
mg/L or mg/Kg

<u>&lt;0.005</u>	Antimony
<u>&lt;0.005</u>	Arsenic
<u>&lt;0.01</u>	Barium
<u>&lt;0.02</u>	Beryllium
<u>&lt;0.001</u>	Cadmium
<u>&lt;0.01</u>	Chromium (total)
	*Chromium (hexavalent)
<u>&lt;0.02</u>	Cobalt
<u>&lt;0.02</u>	Copper
<u>0.009</u>	Lead
<u>&lt;0.0005</u>	Mercury
<u>&lt;0.02</u>	Molybdenum
<u>&lt;0.01</u>	Nickel
<u>&lt;0.005</u>	Selenium
<u>&lt;0.05</u>	Silver
<u>&lt;0.005</u>	Thallium
<u>&lt;0.01</u>	Vanadium
<u>0.16</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALS

Client: Gregg & Associates Date Received: 12-3-84  
Sample I.D.: B1-AP Treated Date Analyzed: 12-18 thru 12-31-84  
Sample Matrix: Water Concentration: milligrams per liter

(Circle One)  
mg/L or mg/Kg

<u>&lt;0.005</u>	Antimony
<u>&lt;0.005</u>	Arsenic
<u>&lt;0.01</u>	Barium
<u>&lt;0.02</u>	Beryllium
<u>&lt;0.001</u>	Cadmium
<u>&lt;0.01</u>	Chromium (total)
	*Chromium (hexavalent)
<u>&lt;0.02</u>	Cobalt
<u>0.03</u>	Copper
<u>5.5</u>	Lead
<u>&lt;0.0005</u>	Mercury
<u>&lt;0.02</u>	Molybdenum
<u>&lt;0.01</u>	Nickel
<u>&lt;0.005</u>	Selenium
<u>&lt;0.05</u>	Silver
<u>&lt;0.005</u>	Thallium
<u>&lt;0.01</u>	Vanadium
<u>2.34</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.





I.D. 01-001778

January 10, 1985

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

Project: CALAC

Number: 84-106

On December 31, 1984 Analytical Technologies, Inc. received fourteen (14) liquid samples (water and oil), for analyses of volatile organics. These samples were originally sent on December 3, 1984, but because of improper sampling, analyses of volatile organics were not possible. Analyses was done using gas chromatographs equipped with Hall and photo-ionization detectors, in accordance with EPA methods 601 and 602.


Preliminary volatile results for sample B1-J were reported verbally. A second GC/HD/PID run failed to confirm the presence of 1,2-dichloroethane, 1,1,1-trichloroethane, trichloroethene, and benzene. They have been determined to be laboratory contaminants. The sample is being analyzed by gas chromatography mass spectrometer for additional confirmation.

AA  
Samples B1-J, B1-AI, B1-ZM, and B1-~~PS~~ were oil, and required a methanol extraction for analyses. The limit of detection is 100 times higher as a consequence of the extraction.

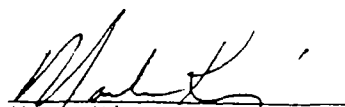
AA  
Of the two volatile vials, samples for B1-~~PS~~, one was >99% oil, the second was split, approximately half water and half oil. They were analyzed as three separate samples. The two oil samples were extracted with methanol. The analyses of B1-AN showed interference on the chromatogram. The sample was reanalyzed by the same method (GC/HD/PID), and displayed the same interference. The sample is currently being analyzed by gas chromatogram/mass spectrometer.

Gas chromatograph/mass spectrometer confirmation of all volatile results are pending.

ML:mat

  
John W. Strand  
Support Services Manager

Reviewed by

  
Mark King  
Laboratory Manager

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## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

01-001778

Client: GREGG AND ASSOCIATESDate Collected: 12-7-84Sample I.D.: B1-AJ UntreatedDate Received by Lab: 12-13-84Sample Matrix: WATERDate Analyzed: 12-16-84

<u>µg/L</u>		<u>µg/L</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

01-001778

Client: GREGG AND ASSOCIATESDate Collected: 12-7-84Sample I.D.: B1-AL UntreatedDate Received by Lab: 12-13-84Sample Matrix: WATERDate Analyzed: 12-16-84

<u>ug/L</u>		<u>ug/L</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

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## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

01-001778

Client: GREGG AND ASSOCIATESDate Collected: 12-7-84Sample I.D.: B1-AU UntreatedDate Received by Lab: 12-13-84Sample Matrix: WATERDate Analyzed: 12-16-84

<u>µg/L</u>		<u>µg/L</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	44.8	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
741	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
35.2	Tetrachloroethene		

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## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

01-001778

Client: GREGG AND ASSOCIATESDate Collected: 12-7-84Sample I.D.: B1-AP UntreatedDate Received by Lab: 12-13-84Sample Matrix: WATERDate Analyzed: 12-16-84

<u>ug/L</u>		<u>ug/L</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

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## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

01-001778

Client: GREGG AND ASSOCIATES

Date Collected: 12-7-84

Sample I.D.: B1-AH Untreated

Date Received by Lab: 12-13-84

Sample Matrix: WATER

Date Analyzed: 12-16-84

<u>ug/L</u>		<u>ug/L</u>	
< 0.2	Benzene	2.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
711	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
16.6	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

01-001778

Client: GREGG AND ASSOCIATESDate Collected: 12-7-84Sample I.D.: B1-Zy UntreatedDate Received by Lab: 12-13-84Sample Matrix: WATERDate Analyzed: 12-16-84

<u>ug/L</u>		<u>ug/L</u>	
< 0.2	Benzene	< 0.4	Toluene
5.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
7.8	Chloroform		
< 0.2	Chloromethane		
2.3	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
1.6	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

01-001778

Client: GREGG AND ASSOCIATES Date Collected: 12-7-84  
 Sample I.D.: B1-ZM Unbreata Date Received by Lab: 12-13-84  
 Sample Matrix: WATER Date Analyzed: 12-16-84

<u>ug/L</u>		<u>ug/L</u>	
< 0.2	Benzene	< 0.4	Toluene
2.2	Bromodichloromethane	78.9	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
0.8	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane	1540	Freon 113
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
1.8	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
33.9	Tetrachloroethene		



VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 601 & 602)

Client: Gregg & Associates Date Collected: 12-7-84  
 Sample I.D.: B1-~~115~~ Oil Sample 1 Date Received by Lab: 12-13-84  
 Sample Matrix: WATER Date Analyzed: 12-16-84

<u>ug/L</u>		<u>ug/L</u>	
< 20	Benzene	< 40	Toluene
< 10	Bromodichloromethane	< 20	1,1,1-Trichloroethane
< 70	Bromoform	< 10	1,1,2-Trichloroethane
< 10	Bromomethane	< 30	Trichloroethene
< 10	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 80	Chlorobenzene	< 20	Vinyl Chloride
< 80	Chloroethane		
< 20	2-Chloroethylvinylether		
< 10	Chloroform		
< 20	Chloromethane		
< 10	Dibromochloromethane		
< 40	1,2-Dichlorobenzene		
< 40	1,3-Dichlorobenzene		
< 60	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 10	1,1-Dichloroethane		
< 10	1,2-Dichloroethane		
< 10	1,1-Dichloroethene		
< 10	trans-1,2-Dichloroethene		
< 10	1,2-Dichloropropane		
< 10	cis-1,3-Dichloropropene		
< 10	trans-1,3-Dichloropropene		
< 10	Ethyl Benzene		
< 50	Methylene Chloride		
< 40	1,1,2,2-Tetrachloroethane		
4340	Tetrachloroethene		

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

Client: Gregg & Associates Date Collected: 12-7-84  
 Sample I.D.: B1-~~PA~~<sup>AA</sup> Oil Phase Sample Date Received by Lab: 12-13-84  
 Sample Matrix: WATER 2 / Oil Date Analyzed: 12-16-84

<u>ug/L</u>		<u>ug/L</u>	
< 20	Benzene	< 40	Toluene
< 10	Bromodichloromethane	< 20	1,1,1-Trichloroethane
< 70	Bromoform	< 10	1,1,2-Trichloroethane
< 10	Bromomethane	< 30	Trichloroethene
< 10	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 80	Chlorobenzene	< 20	Vinyl Chloride
< 80	Chloroethane		
< 20	2-Chloroethylvinylether		
< 10	Chloroform		
< 20	Chloromethane		
< 10	Dibromochloromethane		
< 40	1,2-Dichlorobenzene		
< 40	1,3-Dichlorobenzene		
< 60	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 10	1,1-Dichloroethane		
< 10	1,2-Dichloroethane		
< 10	1,1-Dichloroethene		
< 10	trans-1,2-Dichloroethene		
< 10	1,2-Dichloropropane		
< 10	cis-1,3-Dichloropropene		
< 10	trans-1,3-Dichloropropene		
< 10	Ethyl Benzene		
< 50	Methylene Chloride		
< 40	1,1,2,2-Tetrachloroethane		
65.7	Tetrachloroethene		

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

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## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

01-001778

Client: GREGG AND ASSOCIATES Date Collected: 12-7-84  
 Sample I.D.: B1-ZC Untreated Date Received by Lab: 12-13-84  
 Sample Matrix: WATER Date Analyzed: 12-16-84

<u>ug/L</u>		<u>ug/L</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	2.5	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
2.9	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
2.4	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
4490	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 & 602)

01-001778

Client: Greog and Associates Date Collected: 12/7/84

Sample I.D.: B1-<sup>AA</sup>~~26~~ Water Phase Date Received by Lab: 12/13/84

Sample Matrix: WATER/ oil Date Analyzed: 12/15/07

$\mu\text{g/L}$		$\mu\text{g/L}$	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	6.6	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	2.8	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

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## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

Duplicate

01-001778

Client: GREGG AND ASSOCIATES Date Collected: 12-7-84  
 Sample I.D.: B1-AC Duplicate <sup>unlabeled</sup> Date Received by Lab: 12-13-84  
 Sample Matrix: WATER Date Analyzed: 12-16-84

<u>µg/L</u>		<u>µg/L</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	1.0	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	1.8	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
7.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
0.4	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
2.9	Tetrachloroethene		

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## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

01-001778

Client: GREGG AND ASSOCIATES Date Collected: 12-7-84  
 Sample I.D.: B1-AC *Untreated* Date Received by Lab: 12-13-84  
 Sample Matrix: WATER Date Analyzed: 12-16-84

<u>ug/L</u>		<u>ug/L</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>4.7</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>2.6</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>7.2</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>1.4</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>5.5</u>	Tetrachloroethene		

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## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

Client: Gregg & Associates Date Collected: 12-7-84  
 Sample I.D.: B1-A1 Untreated Date Received by Lab: 12-13-84  
 Sample Matrix: WATER Date Analyzed: 12-16-84

<u>ug/L</u>		<u>ug/L</u>	
< 20	Benzene	< 40	Toluene
< 10	Bromodichloromethane	< 20	1,1,1-Trichloroethane
< 70	Bromoform	< 10	1,1,2-Trichloroethane
< 10	Bromomethane	< 30	Trichloroethene
< 10	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 80	Chlorobenzene	< 20	Vinyl Chloride
< 80	Chloroethane		
< 20	2-Chloroethylvinylether		
< 10	Chloroform		
< 20	Chloromethane		
< 10	Dibromochloromethane		
< 40	1,2-Dichlorobenzene		
< 40	1,3-Dichlorobenzene		
< 60	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 10	1,1-Dichloroethane		
< 10	1,2-Dichloroethane		
< 10	1,1-Dichloroethene		
< 10	trans-1,2-Dichloroethene		
< 10	1,2-Dichloropropane		
< 10	cis-1,3-Dichloropropene		
< 10	trans-1,3-Dichloropropene		
< 10	Ethyl Benzene		
< 50	Methylene Chloride		
< 40	1,1,2,2-Tetrachloroethane		
281	Tetrachloroethene		

ND = Not Detected, limit of  
 detection for this  
 compound has not been  
 fully evaluated.

VOLATILE ORGANIC ANALYSIS  
DATA SUMMARY  
(EPA METHOD 601 & 602)

Client: Gregg & Associates Date Collected: 12-7-84  
 Sample I.D.: B1-J Date Received by Lab: 12-13-84  
 Sample Matrix: WATER Date Analyzed: 12-16-84

<u>µg/L</u>		<u>µg/L</u>	
<u>&lt; 0.2</u>	Benzene	<u>480</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane	<u>5890</u>	M-Xylene
<u>&lt; 0.2</u>	2-Chloroethylvinylether	<u>4170</u>	O,P -Xylenes*
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>3630</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>5350</u>	Tetrachloroethene		

\* Co-elute

These are the results from a second GC/HD/PID analyses. Additional confirmation of these results by GC/MS is pending.



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

Client: Gregg & Assocaites Date Collected: 12-7-84  
 Sample I.D.: B1-ZN Untwahl Date Received by Lab: 12-13-84  
 Sample Matrix: WATER Date Analyzed: 12-16-84

<u>µg/L</u>		<u>µg/L</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.1</u>	Bromodichloromethane	<u>&lt; 0.2</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>&lt; 0.1</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>&lt; 0.3</u>	Trichloroethene
<u>&lt; 0.1</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>&lt; 0.2</u>	2-Chloroethylvinylether		
<u>&lt; 0.1</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>&lt; 0.1</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.1</u>	1,1-Dichloroethane		
<u>&lt; 0.1</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>&lt; 0.1</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.1</u>	1,2-Dichloropropane		
<u>&lt; 0.1</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.1</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>4490</u>	Tetrachloroethene		

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## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

(EPA METHOD 601 &amp; 602)

Client: Gregg & Associates Date Collected: 12-11-84  
 Sample I.D.: B1-AN *untreated* Date Received by Lab: 12-13-84  
 Sample Matrix: WATER Date Analyzed: 12-16-84

<u>µg/L</u>		<u>µg/L</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>*</u>	Bromodichloromethane	<u>*</u>	1,1,1-Trichloroethane
<u>&lt; 0.7</u>	Bromoform	<u>*</u>	1,1,2-Trichloroethane
<u>&lt; 0.1</u>	Bromomethane	<u>*</u>	Trichloroethene
<u>*</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.8</u>	Chlorobenzene	<u>&lt; 0.2</u>	Vinyl Chloride
<u>&lt; 0.8</u>	Chloroethane		
<u>*</u>	2-Chloroethylvinylether		
<u>*</u>	Chloroform		
<u>&lt; 0.2</u>	Chloromethane		
<u>*</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>*</u>	1,1-Dichloroethane		
<u>*</u>	1,2-Dichloroethane		
<u>&lt; 0.1</u>	1,1-Dichloroethene		
<u>*</u>	trans-1,2-Dichloroethene		
<u>*</u>	1,2-Dichloropropane		
<u>*</u>	cis-1,3-Dichloropropene		
<u>*</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.5</u>	Methylene Chloride		
<u>&lt; 0.4</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.4</u>	Tetrachloroethene		

\* Detection not possible  
 due to chromatographic  
 interference, (see cover  
 letter).

## REPORT

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## TRUESDAIL LABORATORIES, INC.



CHEMISTS - MICROBIOLOGISTS - ENGINEERS

RESEARCH - DEVELOPMENT - TESTING

Gregg &amp; Associates

CLIENT 18351 Beach Boulevard, Suite L  
Huntington Beach, CA 92647  
ATTENTION: Dean Gregg

14201 FRANKLIN AVENUE  
TUSTIN, CALIFORNIA 92680  
AREA CODE 714 • 730-6239  
AREA CODE 213 • 225-1564  
CABLE: T L L A B

DATE November 7, 1984

RECEIVED October 31, 1984

LABORATORY NO. 02034

SAMPLE Soil

P. O. No. 84106

INVESTIGATION Organic Contamination

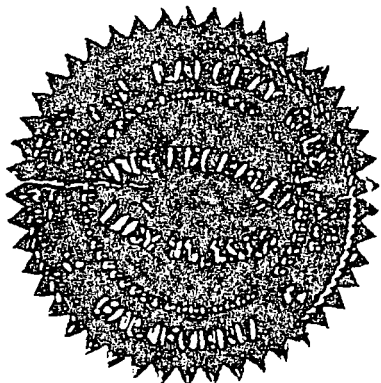
## RESULTS

Milligrams per Kilogram

SAMPLE	TOTAL RECOVERABLE HYDROCARBONS	TOLUENE	Volatile Organic Compounds			
			HEXANE	MCH <sup>a</sup>	1,2DCE <sup>b</sup>	4MCH <sup>c</sup>
Composite-B1-H-B1 (15', 20', 30', 40')	< 4	-	-	-	-	-
Composite-B1-I-B1 (15', 20', 30', 40')	< 4	-	-	-	-	-
B1-AM-B1-3'	490*	7.7	-	-	-	-
5'	19,500*	3.6	2.0	0.8	-	-
9'	< 4	0.67	-	-	-	-
14'	< 4	0.70	-	-	3.7	0.7
30'	< 4	0.54	-	-	-	0.78
40'	< 4	0.68	-	-	-	0.69

<sup>a</sup>Methylcyclohexane<sup>b</sup>1, 2 Dichloroethane<sup>c</sup>4 - Methyl 3 - heptanone

\* The hydrocarbons extracted from these two soils were not gasolines or diesel fuel. Evaporation of the extracts yielded high boiling point oily residues.



Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

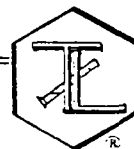
A handwritten signature in cursive script, appearing to read 'Richard D. Reid'.

Richard D. Reid  
Chief Water Chemist

## REPORT

## TRUESDAIL LABORATORIES, INC.

CHEMISTS - MICROBIOLOGISTS - ENGINEERS  
RESEARCH - DEVELOPMENT - TESTING



14201 FRANKLIN AVENUE  
TUSTIN, CALIFORNIA 92680  
AREA CODE 714 • 730-6239  
AREA CODE 213 • 227-1804  
CABLE: TRUESDAIL

CLIENT Gregg & Associates  
18351 Beach Blvd., Suite L  
Huntington Beach, CA  
Attention: Dean Gregg

SAMPLE Soils & Liquids from Lockheed

DATE December 19, 1984

RECEIVED Various dates

LABORATORY NO. 02275

## INVESTIGATION

Organics Analysis - Amended Analyses

## RESULTS

Sample	1,2 DCE*	Parts per Million Carbon Tetrachloride	Chloroform	1,1,1 TCE*
B6B (soil) <sup>12</sup>	0.014	0.047	ND	ND
B6L (soil)	ND	0.041	ND	ND
B6O Organic Liquid)	ND	0.06	0.81	2.08
B6N (soil)	0.11	0.12	ND	ND
B6Q (water)	0.0002	0.0002	0.0038	0.0202

B6O Composition, %

Heptane	12.8	2-Methylheptane	5.6
Xylenes	9.1	2-Methylbutane	1.5
Octane	3.96	Pentane	1.1
Hexane	3.8	Cyclohexane	0.98
Methylcyclohexane	5.4	4-Methyl-1-Pentene	1.0
2-Methyl-1,4 hexadiene	6.8	2,3 Dimethylbutane	2.3
4-Methyl-1-hexene	4.3	3-Methyl-2-pentene	2.9
Butane	3.8	1,3 Dimethylcyclopentane	1.7
Ethyl Cyclopentane	1.7	2,3 Dimethyl-1,4 -hexadiene	2.3
Methyl Cyclopentane	3.1	1,3 Dimethylcyclohexane	1.2
1-Ethyl-3-methylcyclopentene	4.7	1 Octanol	1.2
1,1,3 Trimethylcyclohexane	5.1	1,2,3 Trimethylcyclohexane	1.1
		2,2,5,5 Tetramethyl-3-hexane	1.5

\* 1,2 DCE = 1,2 Dichloroethane

\* 1,1,1 TCE = 1,1,1 Trichloroethane

Milligrams per Kilogram

Sample	1,1 Dichloroethane	Carbon Tetrachloride	1,2 Dichloroethylene	Chloroethane
A1-U-B1-10'	IS	IS	IS	IS
22'	ND	0.075	<0.008	ND
32'	ND	0.025	0.008	ND
40'	IS	IS	IS	IS
A1-V-B2 10'	ND	0.067	0.10	ND
22'	ND	0.057	0.042	ND
32'	ND	0.075	0.065	ND
40'	ND	0.082	0.12	ND
A1-F10-MV2	ND	0.062	0.069	ND
A1-F10-MV1	ND	0.14	0.16	ND
A1-U-B1 composite	ND	0.082	<0.008	ND
A1-F-B1- 4'	ND	< 0.0005	0.089	0.61
10'	ND	0.055	<0.008	ND
22'	ND	0.041	< 0.008	ND
33'	ND	0.061	< 0.008	ND
40'	IS	IS	IS	IS
A1-F-B2 10'	ND	0.037	0.029	ND
23'	IS	IS	IS	IS
32'	ND	0.072	0.098	ND
40'	0.099	0.069	0.047	ND

A1-F Liquid

Milligrams per Liter

TVI Tetrachloroethylene  
Perchloroethylene

28  
653

B1-AM-B1

Total Petroleum Hydrocarbons mg/kg

3'  
5'

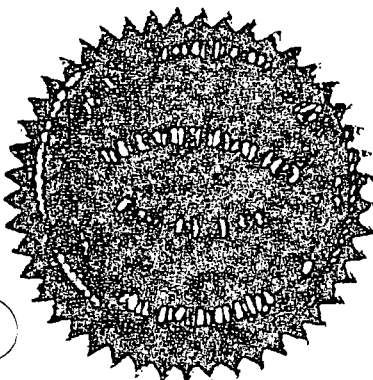
460  
18,000

Soil containers from A1-T-B1 & B2 had insufficient amounts for analysis.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Richard D. Reid  
Chief Water Chemist





Analytical **Technologies, Inc.**

Corporate Offices: 225 W. 30th Street National City, CA 92050 619 477-4173

0838

I.D. 01-001970

March 27, 1985

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

Attention: Ed Baquerizo

On February 20, 1985, Ed Baquerizo called Analytical Technologies, Inc. and requested additional testing on soils previously tested by Analytical Technologies, Inc. Volatile organic compounds were tested using a gas chromatograph/mass spectrometer in accordance with EPA method 8240. Metals were analyzed by acid digesting aliquots of soil, (EPA method 3050), and analyzing the digests using inductively coupled argon plasma and atomic absorption graphite furnace, in accordance with the methods cited in EPA publication 846.

Sodium for sample B1-ZB-B 40' will be sent in a follow-up report along with the quality control data for the metals.

Attached are the test results.

John W. Strand  
Support Services Manager

Reviewed by

  
Mark King  
Laboratory Manager

ML:mat

Attachments

Gregg &amp; Associates

I.D. 01-001970

DATA SHEET

Concentration = mg/kg\*

<u>Sample I.D.</u>	<u>Chromium</u>	<u>Sodium</u>
B1-ZC-B1 12'	4.3	373
B1-ZC-B1 17'	4.1	430
B1-ZC-B1 25'	12.4	733
B1-ZC-B1 40'	2.9	349

	<u>Sulfate</u>
B1-U-B2 13'	11.1
B1-U-B2 20'	26.1
B1-U-B2 30'	29.8
B1-U-B2 40'	<6

	<u>Chromium</u>	<u>Sodium</u>
B1-ZB-B 10'	39.5	938
B1-ZB-B 25'	3.9	263
B1-ZB-B 40'	14.6	

	<u>Chromium</u>	<u>pH</u>
B1-ZF-SL1 0-10'	5.3	10.00
B1-ZF-SL1 15'	5.9	9.36
B1-ZF-SL1 28'	6.1	9.67

	<u>Beryllium</u>	<u>Mercury</u>	<u>Molybdenum</u>
B1-AN-B1 10'	<0.5	0.31	<25
B1-AN-B1 15'	<0.5	<0.10	<25
B1-AN-B1 30'	<0.5	0.54	<25
B1-AN-B1 40'	<0.5	<0.10	<25

	<u>Molybdenum</u>
B1-AP-B1 10'	<25
B1-AP-B1 15'	<25
B1-AP-B1 30'	<25
B1-AP-B1 40'	<25

\*mg/kg = milligrams per kilogram



Gregg &amp; Associates

I.D. 01-001970

DATA SHEET

Concentration = mg/kg\*

<u>Sample I.D.</u>	<u>Sodium</u>	<u>Sulfate</u>
B1-Background 10'	284	<6
B1-Background 20'	387	<6
B1-Background 30'	687	<6
B1-Background 40'	253	<6

Oil and Grease

B1-ZJ-SL 8'	<0.6
B1-ZJ-SL 15'	21.8
B1-ZJ-SL 30'	6.0

\*mg/kg = milligrams per kilogram

DATA SUMMARY  
OF CAM LISTED METALSClient: Gregg & AssociatesReport Date: 3-27-85Sample I.D.: B1-AM-B2 16'Sample Matrix: SoilConcentration: Total mg/kg(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>23.3</u>	Arsenic
<u>129</u>	Barium
<u>&lt;0.5</u>	Beryllium
<u>&lt;0.5</u>	Cadmium
<u>13.8</u>	Chromium (total)
	*Chromium (hexavalent)
<u>9.7</u>	Cobalt
<u>14.2</u>	Copper
<u>2.9</u>	Lead
<u>0.22</u>	Mercury
<u>&lt;25</u>	Molybdenum
<u>10.5</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>39.3</u>	Vanadium
<u>61</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALSClient: Gregg & AssociatesReport Date: 3-27-85Sample I.D.: B1-AM-B2 23'Sample Matrix: SoilConcentration: Total mg/kg(Circle One)  
mg/L or mg/Kg

<u>&lt;2.5</u>	Antimony
<u>5.7</u>	Arsenic
<u>39.7</u>	Barium
<u>&lt;0.5</u>	Beryllium
<u>&lt;0.5</u>	Cadmium
<u>3.8</u>	Chromium (total)
	*Chromium (hexavalent)
<u>2.6</u>	Cobalt
<u>5.7</u>	Copper
<u>&lt;2.5</u>	Lead
<u>0.34</u>	Mercury
<u>&lt;25</u>	Molybdenum
<u>2.8</u>	Nickel
<u>&lt;2.5</u>	Selenium
<u>&lt;2.5</u>	Silver
<u>&lt;2.5</u>	Thallium
<u>12.6</u>	Vanadium
<u>23.6</u>	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

DATA SUMMARY  
OF CAM LISTED METALSClient: Gregg & AssociatesReport Date: 3-27-85Sample I.D.: B1-AM-B2 40'Sample Matrix: SoilConcentration: Total mg/kg(Circle One)  
mg/L or mg/Kg

<2.5	Antimony
20.9	Arsenic
93.5	Barium
<0.5	Beryllium
<0.5	Cadmium
12.1	Chromium (total)
	*Chromium (hexavalent)
6.8	Cobalt
15.2	Copper
<2.5	Lead
<0.10	Mercury
<25	Molybdenum
10.6	Nickel
<2.5	Selenium
<2.5	Silver
<2.5	Thallium
28.9	Vanadium
53.8	Zinc

\*Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.



Analytical Technologies, Inc.

Corporate Offices: 225 W. 30th Street National City, CA 92050 619 477-4173

I.D. #01-002186

RECEIVED MAY 30 1985

May 24, 1985

Gregg and Associates  
18351 Beach Blvd.  
Suite L  
Huntington Beach, California 92647

Attention: Ed Baquerizo

Project: Lockheed Construction Waste Dump

On May 3, 1985, Analytical Technologies, Inc. received twenty (20) soil samples to be composited and analyzed. The pH was determined in accordance with EPA method 150.1. The oil and grease analysis was done by infrared spectroscopy in accordance with EPA method 413.2. The samples were analyzed for chromium (Cr), copper (Cu), and zinc (Zn) by atomic emission spectroscopy with the use of inductively coupled argon plasma (ICAP). The lead content was determined by atomic absorption in accordance with EPA methods outlined in the 7000 series. The volatile organics analysis was done by gas chromatography/photo ionization and Hall detectors in accordance with EPA methods 8010 and 8020.

The results of these analyses are enclosed.

*Sharon Hudson Bjork*  
Sharon Hudson Bjork  
Technical Associate

Reviewed by

*Mark King*  
Mark King  
Laboratory Manager

SHB/dm

NOTE: Samples from the above project will be disposed of in 30 days from the date of this report unless we are notified otherwise.



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

EPA 8010/8020

Client: Gregg & Associates Date Collected: 5-1-85  
Sample I.D.: B-1-AW-5'-40' Date Received by Lab: 5-3-85  
Sample Matrix: Soil Date Analyzed: 5-21-85

<u>µg/kg</u>		<u>µg/kg</u>	
<u>&lt; 0.2</u>	Benzene	<u>&lt; 0.4</u>	Toluene
<u>&lt; 0.04</u>	Bromodichloromethane	<u>&lt; 0.03</u>	1,1,1-Trichloroethane
<u>&lt; 0.09</u>	Bromoform	<u>&lt; 0.03</u>	1,1,2-Trichloroethane
<u>&lt; 0.06</u>	Bromomethane	<u>&lt; 0.06</u>	Trichloroethene
<u>&lt; 0.08</u>	Carbon Tetrachloride	<u>ND</u>	Trichlorofluoromethane
<u>&lt; 0.16</u>	Chlorobenzene	<u>&lt; 0.05</u>	Vinyl Chloride
<u>&lt; 0.1</u>	Chloroethane		
<u>&lt; 0.03</u>	2-Chloroethylvinylether		
<u>&lt; 0.05</u>	Chloroform		
<u>&lt; 0.02</u>	Chloromethane		
<u>&lt; 0.07</u>	Dibromochloromethane		
<u>&lt; 0.4</u>	1,2-Dichlorobenzene		
<u>&lt; 0.4</u>	1,3-Dichlorobenzene		
<u>&lt; 0.6</u>	1,4-Dichlorobenzene		
<u>ND</u>	Dichlorodifluoromethane		
<u>&lt; 0.05</u>	1,1-Dichloroethane		
<u>&lt; 0.07</u>	1,2-Dichloroethane		
<u>&lt; 0.07</u>	1,1-Dichloroethene		
<u>&lt; 0.09</u>	trans-1,2-Dichloroethene		
<u>&lt; 0.03</u>	1,2-Dichloropropane		
<u>&lt; 0.07</u>	cis-1,3-Dichloropropene		
<u>&lt; 0.11</u>	trans-1,3-Dichloropropene		
<u>&lt; 0.1</u>	Ethyl Benzene		
<u>&lt; 0.02</u>	Methylene Chloride		
<u>&lt; 0.03</u>	1,1,2,2-Tetrachloroethane		
<u>&lt; 0.03</u>	Tetrachloroethene		

Analysis	Date	Duplicates				Spike				EPA Quality Control Solution	Result	True Value	95% Confidence Interval
		Sample I.D. #	1st Result	2nd Result	RPD*	Sample No.	Result	True Value	% ** Recovery				
J	5/20	2193 #1	16.7	16.6	1	2215 #2	0.23	0.25	92	WP 481 #2	0.17	0.17	0.15-0.19
b	5/15	Comp 2186 #1-5	2.5	2.5	N/A	Comp 2186 #1-5	30	30	100	WS 378 #2	0.023	0.028	0.0223- 0.0343
r	5/20	2215 #1	0.01	0.01	N/A	2215 #2	0.24	0.25	96	WP 481 #2	0.12	0.13	0.10-0.16
n	5/20	2193 #1	51.1	51.5	1	2215 #2	0.21	0.25	84	WP 481 #2	0.19	0.21	0.19-0.23
H	5/16	2144 #1	7.59	7.55	0.5	-----	-----	-----	-----	WP 882 #1	5.74	5.70	5.58-5.82
& G	5/16	Comp. 2176 #47-52	22.1	20.2	9	2176 #47-52	862	851	101	WP 379 #1	15.5	12.0	9.6-15.8

\* RPD (Relative Percent Difference) =  $\frac{\text{1st value} - \text{2nd value}}{\text{average value}}$

\*\* % Recovery =  $\frac{(\text{Spiked sample result} - \text{sample result})}{\text{Spike Added}} \times 100$

ANALYTICAL TECHNOLOGIES, INC.

I.D. #01-002186

Client: Gregg and Associates

## DATA SHEET

Sample	pH	Oil & Grease	Cu	Pb	Cr	Zn
AD18-5'						
AD18-10'						
AD18-15'		3.6	8.5	<2.5	10.9	45.9
AD18-20'						
AD18-30'						
AD19-5'						
AD19-10'						
AD19-15'		38.9	22.9	320	15.0	81.6
AD19-20'						
AD19-30'						
AD18-0-5'						
AD18-5-10'	8.22		10.6	<2.5	10.1	46.5
AD18-10-18'						
AD19-0-5'						
AD19-5-10'	7.98		32.6	1000	49.8	126
AD19-10-18'						
B1-AW-5'		18.3	6.5		10.3	36.6
B1-AW-12'						
B1-AW-22'		6.4	15.6		14.3	52.8
B1-AW-40'						





I.D. 01-002261

June 19, 1985

Gregg & Associates, Inc.  
18351 Beach Blvd., Suite L  
Huntington Beach, CA 92647

Attention: Ed Baquerizo

Project: Calac #84-106-003

On May 17, 1985, Analytical Technologies, Inc. received nine (9) soil samples for analysis. The samples were analyzed for pH in accordance with EPA wet method 150.1.

The samples were sent to Analytical Technologies, Inc. in Tempe, Arizona, for analysis of volatile organic compounds. The analyses were performed by gas chromatography/Hall and photo-ionization detectors in accordance with EPA methods 8010 and 8020.

The results and quality control data are enclosed.

*Sharon Hudson Bjork*  
Sharon Hudson Bjork  
Technical Associate

Reviewed by:

*Mark King*  
Mark King  
Laboratory Manager

SHB:mat

Enclosures

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report unless we are informed otherwise.

ANALYTICAL TECHNOLOGIES, INC.

I.D. 01-002261

pH  
DATA SHEET

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Client: Gregg & Associates  
Date Received: 5-21-85  
Date Analyzed: 5-24-85  
Date Reported: 6-19-85

Sample Matrix: Soil  
Method No.: 150.1  
Units: Units

<u>ATI</u> <u>SAMPLE I.D.</u>	<u>CLIENT</u> <u>SAMPLE I.D.</u>	<u>pH</u>
8505-0105	B1-Z1-10'	7.50
8505-0106	B1-Z1-18'	6.57
8505-0107	B1-Z1-26'	7.15
8505-0108	B1-Z1-34'	6.81
8505-0109	B1-Z1-44'	7.82
8505-0110	B1-Z1-60'	7.31



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

[EPA METHOD 8010/8020]

Date Sampled: 5-17-85

Client: Gregg &amp; Associates, Inc.

ATI Sample I.D.: 8505-0105

Sample I.D.: B1-Z1-10'

Date Received by Lab: 5-21-85

Sample Matrix: Soil

Date Analyzed: 6-4-85

Units: micrograms per kilogram

Date Reported: 6-19-85

(ug/kg)

< 0.2	Benzene	< 0.4	Toluene
< 0.04	Bromodichloromethane	< 0.03	1,1,1-Trichloroethane
< 0.09	Bromoform	< 0.03	1,1,2-Trichloroethane
< 0.06	Bromomethane	< 0.06	Trichloroethene
< 0.08	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.16	Chlorobenzene	< 0.05	Vinyl Chloride
< 0.1	Chloroethane		
< 0.03	2-Chloroethylvinylether		
< 0.05	Chloroform		
< 0.02	Chloromethane		
< 0.07	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.05	1,1-Dichloroethane		
< 0.07	1,2-Dichloroethane		
< 0.07	1,1-Dichloroethene		
< 0.09	trans-1,2-Dichloroethene		
< 0.03	1,2-Dichloropropane		
< 0.07	cis-1,3-Dichloropropene		
< 0.11	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.02	Methylene Chloride		
< 0.03	1,1,2,2-Tetrachloroethane		
< 0.03	Tetrachloroethene		



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

[EPA METHOD 8010/8020]

Date Sampled: 5-17-85

Client: Gregg &amp; Associates, Inc.

ATI Sample I.D.: 8505-0106

Sample I.D.: B1-Z1-18'

Date Received by Lab: 5-21-85

Sample Matrix: Soil

Date Analyzed: 6-4-85

Units: micrograms per kilogram  
(ug/kg)

Date Reported: 6-19-85

< 0.2	Benzene	< 0.4	Toluene
< 0.04	Bromodichloromethane	< 0.03	1,1,1-Trichloroethane
< 0.09	Bromoform	< 0.03	1,1,2-Trichloroethane
< 0.06	Bromomethane	< 0.06	Trichloroethene
< 0.08	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.16	Chlorobenzene	< 0.05	Vinyl Chloride
< 0.1	Chloroethane		
< 0.03	2-Chloroethylvinylether		
< 0.05	Chloroform		
< 0.02	Chloromethane		
< 0.07	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.05	1,1-Dichloroethane		
< 0.07	1,2-Dichloroethane		
< 0.07	1,1-Dichloroethene		
< 0.09	trans-1,2-Dichloroethene		
< 0.03	1,2-Dichloropropane		
< 0.07	cis-1,3-Dichloropropene		
< 0.11	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.02	Methylene Chloride		
< 0.03	1,1,2,2-Tetrachloroethane		
< 0.03	Tetrachloroethene		



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

[EPA METHOD 8010/8020]

Date Sampled: 5-17-85

Client: Gregg &amp; Associates, Inc.

ATI Sample I.D.: 8505-0107

Sample I.D.: B1-Z1-26'

Date Received by Lab: 5-21-85

Sample Matrix: Soil

Date Analyzed: 6-4-85

Units: micrograms per kilogram  
(ug/kg)

Date Reported: 6-19-85

< 0.2	Benzene	< 0.4	Toluene
< 0.04	Bromodichloromethane	< 0.03	1,1,1-Trichloroethane
< 0.09	Bromoform	< 0.03	1,1,2-Trichloroethane
< 0.06	Bromomethane	< 0.06	Trichloroethene
< 0.08	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.16	Chlorobenzene	< 0.05	Vinyl Chloride
< 0.1	Chloroethane		
< 0.03	2-Chloroethylvinylether		
< 0.05	Chloroform		
< 0.02	Chloromethane		
< 0.07	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.05	1,1-Dichloroethane		
< 0.07	1,2-Dichloroethane		
< 0.07	1,1-Dichloroethene		
< 0.09	trans-1,2-Dichloroethene		
< 0.03	1,2-Dichloropropane		
< 0.07	cis-1,3-Dichloropropene		
< 0.11	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.02	Methylene Chloride		
< 0.03	1,1,2,2-Tetrachloroethane		
< 0.03	Tetrachloroethene		



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

[EPA METHOD 8010/8020]

Date Sampled: 5-17-85

Client: Gregg &amp; Associates, Inc.

ATI Sample I.D.: 8505-0108

Sample I.D.: B1-Z1-34'

Date Received by Lab: 5-21-85

Sample Matrix: Soil

Date Analyzed: 6-4-85

Units: micrograms per kilogram  
(ug/kg)

Date Reported: 6-19-85

< 0.2	Benzene	< 0.4	Toluene
< 0.04	Bromodichloromethane	< 0.03	1,1,1-Trichloroethane
< 0.09	Bromoform	< 0.03	1,1,2-Trichloroethane
< 0.06	Bromomethane	< 0.06	Trichloroethene
< 0.08	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.16	Chlorobenzene	< 0.05	Vinyl Chloride
< 0.1	Chloroethane		
< 0.03	2-Chloroethylvinylether		
< 0.05	Chloroform		
< 0.02	Chloromethane		
< 0.07	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.05	1,1-Dichloroethane		
< 0.07	1,2-Dichloroethane		
< 0.07	1,1-Dichloroethene		
< 0.09	trans-1,2-Dichloroethene		
< 0.03	1,2-Dichloropropane		
< 0.07	cis-1,3-Dichloropropene		
< 0.11	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.02	Methylene Chloride		
< 0.03	1,1,2,2-Tetrachloroethane		
< 0.03	Tetrachloroethene		



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

[EPA METHOD 8010/8020]

Date Sampled: 5-17-85

Client: Gregg &amp; Associates, Inc.

ATI Sample I.D.: 8505-0109

Sample I.D.: B1-Z1-44'

Date Received by Lab: 5-21-85

Sample Matrix: Soil

Date Analyzed: 6-4-85

Units: micrograms per kilogram  
(ug/kg)

Date Reported: 6-19-85

< 0.2	Benzene	< 0.4	Toluene
< 0.04	Bromodichloromethane	< 0.03	1,1,1-Trichloroethane
< 0.09	Bromoform	< 0.03	1,1,2-Trichloroethane
< 0.06	Bromomethane	< 0.06	Trichloroethene
< 0.08	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.16	Chlorobenzene	< 0.05	Vinyl Chloride
< 0.1	Chloroethane		
< 0.03	2-Chloroethylvinylether		
< 0.05	Chloroform		
< 0.02	Chloromethane		
< 0.07	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.05	1,1-Dichloroethane		
< 0.07	1,2-Dichloroethane		
< 0.07	1,1-Dichloroethene		
< 0.09	trans-1,2-Dichloroethene		
< 0.03	1,2-Dichloropropane		
< 0.07	cis-1,3-Dichloropropene		
< 0.11	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.02	Methylene Chloride		
< 0.03	1,1,2,2-Tetrachloroethane		
< 0.03	Tetrachloroethene		



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

[EPA METHOD 8010/8020]

Client: Gregg & Associates, Inc. Date Sampled: 5-17-85  
Sample I.D.: B1-Z1-60' ATI Sample I.D.: 8505-0110  
Sample Matrix: Soil Date Received by Lab: 5-21-85  
Units: micrograms per kilogram Date Analyzed: 6-4-85  
(ug/kg) Date Reported: 6-19-85

< 0.2	Benzene	< 0.4	Toluene
< 0.04	Bromodichloromethane	< 0.03	1,1,1-Trichloroethane
< 0.09	Bromoform	< 0.03	1,1,2-Trichloroethane
< 0.06	Bromomethane	< 0.06	Trichloroethene
< 0.08	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.16	Chlorobenzene	< 0.05	Vinyl Chloride
< 0.1	Chloroethane		
< 0.03	2-Chloroethylvinylether		
< 0.05	Chloroform		
< 0.02	Chloromethane		
< 0.07	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.05	1,1-Dichloroethane		
< 0.07	1,2-Dichloroethane		
< 0.07	1,1-Dichloroethene		
< 0.09	trans-1,2-Dichloroethene		
< 0.03	1,2-Dichloropropane		
< 0.07	cis-1,3-Dichloropropene		
< 0.11	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.02	Methylene Chloride		
< 0.03	1,1,2,2-Tetrachloroethane		
< 0.03	Tetrachloroethene		





## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

[EPA METHOD 8010/8020]

Date Sampled: 5-17-85

Client: Gregg &amp; Associates, Inc.

ATI Sample I.D.: 8505-0111

Sample I.D.: A-1-F-8'

Date Received by Lab: 5-21-85

Sample Matrix: Soil

Date Analyzed: 6-4-85

Units: micrograms per kilogram

Date Reported: 6-19-85

(ug/kg)

< 0.2	Benzene	< 0.4	Toluene
< 0.04	Bromodichloromethane	< 0.03	1,1,1-Trichloroethane
< 0.09	Bromoform	< 0.03	1,1,2-Trichloroethane
< 0.06	Bromomethane	< 0.06	Trichloroethene
< 0.08	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.16	Chlorobenzene	< 0.05	Vinyl Chloride
< 0.1	Chloroethane		
< 0.03	2-Chloroethylvinylether		
< 0.05	Chloroform		
< 0.02	Chloromethane		
< 0.07	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.05	1,1-Dichloroethane		
< 0.07	1,2-Dichloroethane		
< 0.07	1,1-Dichloroethene		
< 0.09	trans-1,2-Dichloroethene		
< 0.03	1,2-Dichloropropane		
< 0.07	cis-1,3-Dichloropropene		
< 0.11	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.02	Methylene Chloride		
< 0.03	1,1,2,2-Tetrachloroethane		
< 0.03	Tetrachloroethene		



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

[EPA METHOD 8010/8020]

Date Sampled: 5-17-85

Client: Gregg &amp; Associates, Inc.

ATI Sample I.D.: 8505-0112

Sample I.D.: A-1-F-16.5'

Date Received by Lab: 5-21-85

Sample Matrix: Soil

Date Analyzed: 6-4-85

Units: micrograms per kilogram  
(ug/kg)

Date Reported: 6-19-85

< 0.2	Benzene	< 0.4	Toluene
< 0.04	Bromodichloromethane	< 0.03	1,1,1-Trichloroethane
< 0.09	Bromoform	< 0.03	1,1,2-Trichloroethane
< 0.06	Bromomethane	< 0.06	Trichloroethene
< 0.08	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.16	Chlorobenzene	< 0.05	Vinyl Chloride
< 0.1	Chloroethane		
< 0.03	2-Chloroethylvinylether		
< 0.05	Chloroform		
< 0.02	Chloromethane		
< 0.07	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.05	1,1-Dichloroethane		
< 0.07	1,2-Dichloroethane		
< 0.07	1,1-Dichloroethene		
< 0.09	trans-1,2-Dichloroethene		
< 0.03	1,2-Dichloropropane		
< 0.07	cis-1,3-Dichloropropene		
< 0.11	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.02	Methylene Chloride		
< 0.03	1,1,2,2-Tetrachloroethane		
< 0.03	Tetrachloroethene		



## VOLATILE ORGANIC ANALYSIS

## DATA SUMMARY

[EPA METHOD 8010/8020]

Date Sampled: 5-17-85

Client: Gregg &amp; Associates, Inc.

ATI Sample I.D.: 8505-0113

Sample I.D.: A-1-F-24'

Date Received by Lab: 5-21-85

Sample Matrix: Soil

Date Analyzed: 6-4-85

Units: micrograms per kilogram  
(ug/kg)

Date Reported: 6-19-85

< 0.2	Benzene	< 0.4	Toluene
< 0.04	Bromodichloromethane	< 0.03	1,1,1-Trichloroethane
< 0.09	Bromoform	< 0.03	1,1,2-Trichloroethane
< 0.06	Bromomethane	< 0.06	Trichloroethene
< 0.08	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.16	Chlorobenzene	< 0.05	Vinyl Chloride
< 0.1	Chloroethane		
< 0.03	2-Chloroethylvinylether		
< 0.05	Chloroform		
< 0.02	Chloromethane		
< 0.07	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.05	1,1-Dichloroethane		
< 0.07	1,2-Dichloroethane		
< 0.07	1,1-Dichloroethene		
< 0.09	trans-1,2-Dichloroethene		
< 0.03	1,2-Dichloropropane		
< 0.07	cis-1,3-Dichloropropene		
< 0.11	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.02	Methylene Chloride		
< 0.03	1,1,2,2-Tetrachloroethane		
< 0.03	Tetrachloroethene		



Energy &amp; Environmental Division

Gregg & Associates  
18351 Beach Blvd. Ste. "L"  
Huntington Beach, CA 92647

May 15, 1985  
Acurex ID#: 8505-017  
Client PO#: 84-106-003  
Page 1 of 2

Attention: Ed Baquerizo

Subject: GC/MS Analysis of One Water Sample from Job #84-106-003  
for Volatile Organics, Received 5/10/85

One water sample was analyzed for volatile organics according to U.S. EPA Method 624 (Federal Register, Dec. 3, 1979; Page 69532). Results are presented in Table 1. The method can be summarized as follows:

Helium is bubbled through a 5-mL water sample contained in a specially designed purging chamber at ambient temperature. The purgeable volatile organic compounds are efficiently transferred from the aqueous phase to the vapor phase. The vapor is swept through a sorbent column where the purgeables are trapped. After purging is completed, the sorbent column is heated and back flushed with helium to desorb the purgeables onto a gas chromatographic column. The gas chromatograph is temperature programmed to separate the purgeables which are then detected with a mass spectrometer.

Compounds other than the priority pollutants are identified with the aid of a NBS-EPA library search.

Prior to analysis every sample is spiked with surrogate compounds as part of Acurex's Quality Control Program. These compounds simulate the behavior of compounds of interest and confirm that acceptable recoveries are being achieved on every sample. The results of surrogate recoveries are reported with the sample results.

If you should have any questions, please do not hesitate to call.

Prepared by: Richard P. Wood  
Richard P. Wood  
Staff Chemist

Approved by: Richard Scott  
Richard Scott  
Manager, GC/MS Operations

RPW/RS/ats

These results were obtained by following standard laboratory procedures; the liability of Acurex Corporation shall not exceed the amount paid for this report. In no event shall Acurex be liable for special or consequential damages.

Table 1. Volatile Organics Results

Gregg &amp; Associates Sample ID

B-1-Z1 Composite\*

<u>Priority Pollutants</u>	<u>Concentration (µg/L)</u>
Methylene Chloride	160
Trichloroethene	5
Toluene	3
All Other Priority Pollutants	ND
 <u>Nonpriority Pollutants</u>	
Acetone	480
Detection Limit	1
 <u>Surrogate Recoveries</u>	<u>Percent (%)</u>
1,2-Dichloroethane-d <sub>4</sub>	97
Toluene-d <sub>8</sub>	109
p-Bromofluorobenzene	97

ND - Not Detected

\* Sample composited from three vials

Note: The septa on the sample vials were upside down.



Energy &amp; Environmental Division

Gregg and Associates  
18351 Beach Blvd.  
Huntington Beach, CA 92647

June 21, 1985  
Acurex ID#: 8506-024  
Client PO#:85-106-008  
Page 1 of 2

Attention: Ed Baquerizo

Subject: GC/MS Analysis of Eight Soil Samples  
for Volatile Organics, Received 6/13/85

Eight soil samples were analyzed for volatile organics according to U.S. EPA Method 8240. Results are presented in Table 1. The method can be summarized as follows:

Helium is bubbled through a 5 g soil sample dispersed in 10 mL of reagent grade water contained in a specially designed purging chamber at ambient temperature. The purgeable volatile organic compounds are efficiently transferred from the aqueous phase to the vapor phase. The vapor is swept through a sorbent column where the purgeables are trapped. After purging is completed, the sorbent column is heated and back flushed with helium to desorb the purgeables onto a gas chromatographic column. The gas chromatograph is temperature programmed to separate the purgeables which are then detected with a mass spectrometer.

Compounds other than the priority pollutants are identified with the aid of a NBS-EPA library search.

Prior to analysis every sample is spiked with surrogate compounds as part of Acurex's Quality Control Program. These compounds simulate the behavior of compounds of interest and confirm that acceptable recoveries are being achieved on every sample. The results of surrogate recoveries are reported with the sample results.

If you should have any questions, please do not hesitate to call.

Prepared by: Richard P. Wood  
Richard P. Wood  
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Approved by: Richard Scott  
Richard Scott  
Manager, GC/MS Operations

RPW/RS/kek

These results were obtained by following standard laboratory procedures; the liability of Acurex Corporation shall not exceed the amount paid for this report. In no event shall Acurex be liable for special or consequential damages.

Table 1. Volatile Organics Results

		Gregg and Associates Sample ID							
B - 1 - ZB - B2 -----		<u>10'</u>	<u>20'</u>	<u>30'</u>	<u>34.5'</u>	<u>40'</u>	<u>50'</u>	<u>60'</u>	<u>70'</u>
<u>Priority Pollutants</u>		<u>Concentration (µg/Kg)</u>							
1,1,2,2-Tetrachloroethane	ND	ND	140,000	ND	ND	ND	1,500	ND	
Benzene	8	10	ND	ND	8	8	ND	ND	
Tetrachloroethene	78	16	3,800,000	12,500	50	31	52,000	2,000	
Toluene	14	ND	ND	ND	ND	ND	ND	ND	
All Other Priority Pollutants	ND	ND	ND	ND	ND	ND	ND	ND	
<u>Nonpriority Pollutants</u>									
Acetone	670	890	ND	ND	500	410	ND	ND	
Detection Limit	5	5	500	500	5	5	500	500	
<u>Surrogate Recoveries</u>		<u>Percent (%)</u>							
1,2-Dichloroethane-d <sub>4</sub>	87	86	89	87	84	91	86	86	
Toluene-d <sub>8</sub>	97	97	96	95	97	98	96	93	
p-Bromofluorobenzene	92	93	106	105	93	92	98	108	

ND - Not Detected